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The OIL WEEKLY

OIL and GAS ENGINEERING

FOR OIL AND GAS PRODUCERS AND PIPE LINE MEN

THE WEEK'S NEWS INTERPRETED

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VOLUME 83 DECEMBER 7, 1936 NUMBER 13

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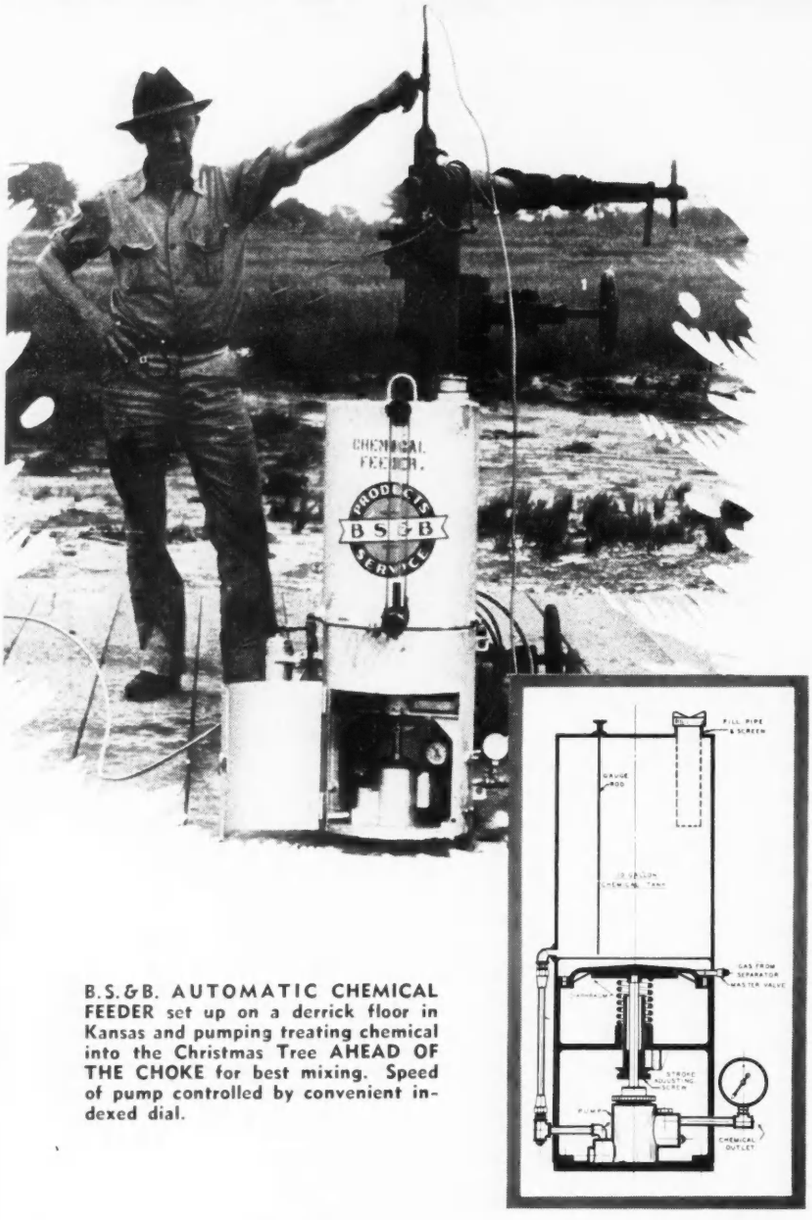

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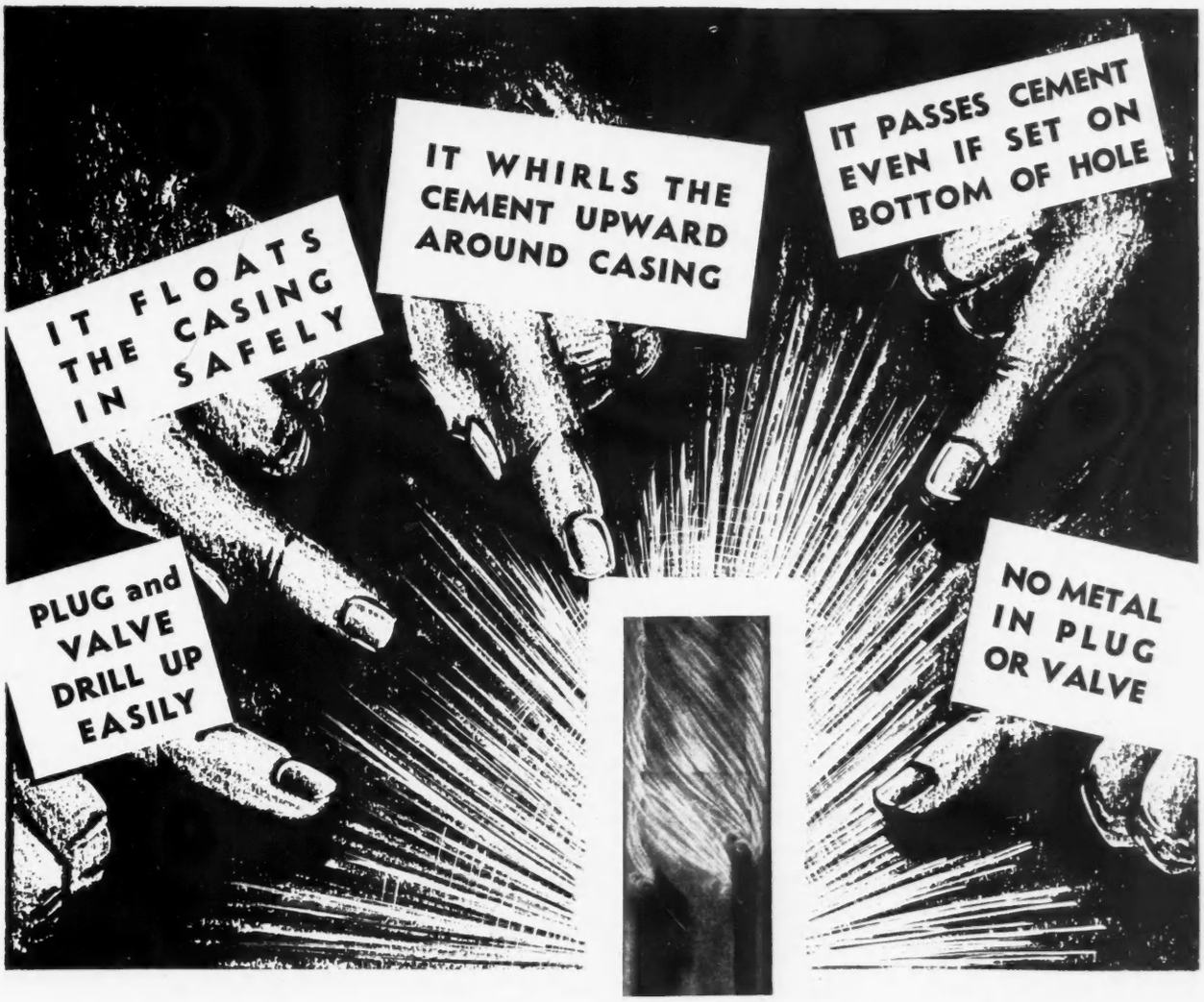
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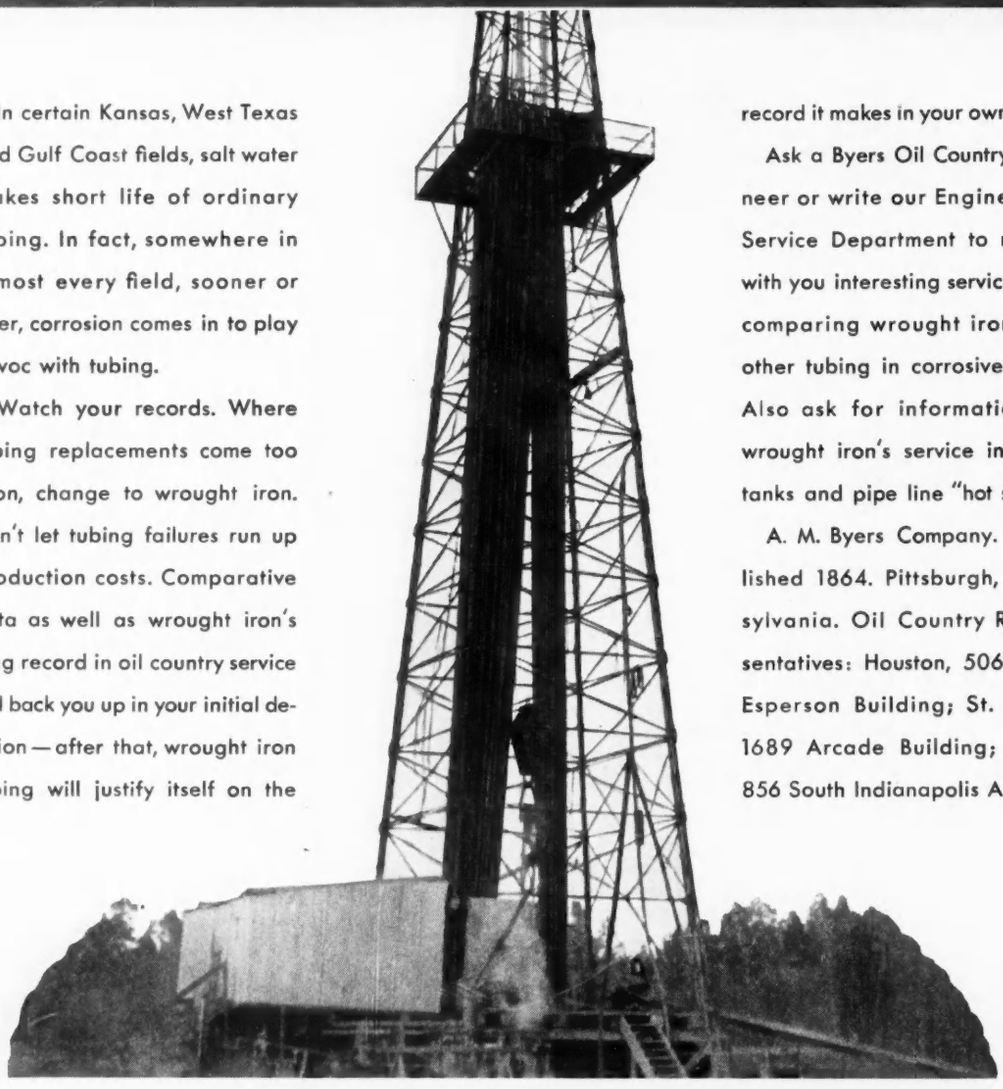

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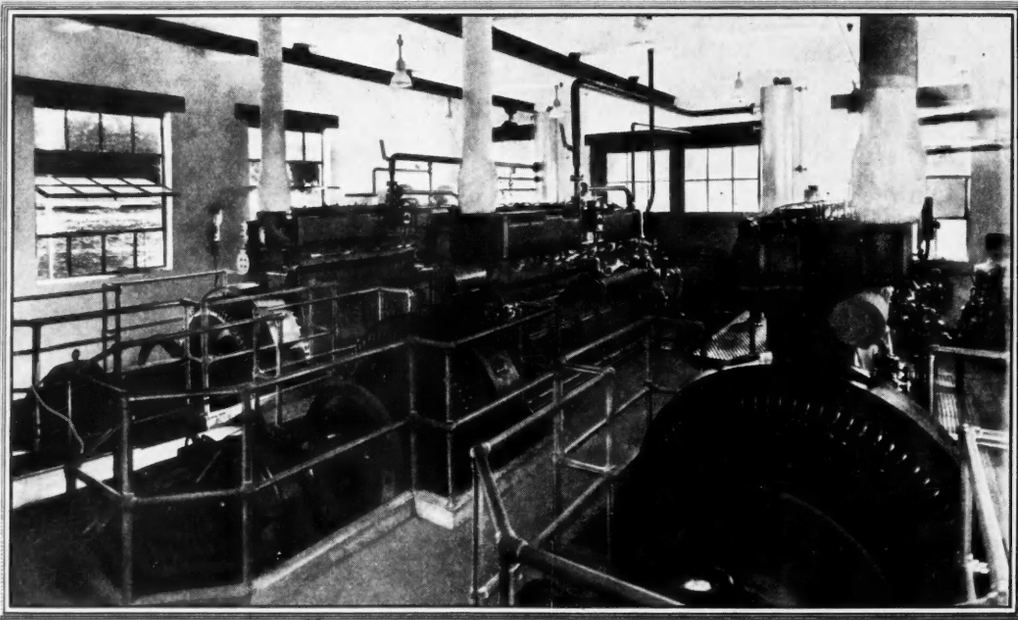

HERE IS ONE DOCTOR WHO TAKES HIS OWN MEDICINE

THERE has been a lot said about overproduction in the oil industry. Strangely enough some of the oil companies have taken little interest in increasing the consumption of their own products.

Here is one of them, the Atlantic Pipe Line Company, which believes it is economically sound to develop its own power from its own products.

Atlantic Pipe Line pumps are motor driven but the power is generated by Cooper-Bessemer 340 H. P. Type-JT Diesel engines. Seven of these units were put into operation in May, 1933. The Mt. Enterprise Texas Station containing three of these Diesels is illustrated. The engines operate on East Texas crude oil.

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AND PIPE LINE MEN

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ENGINEERING NEWS STATISTICS

WARREN L. BAKER, Editor

This Week:

CONTINENTAL Oil Company's president, Dan Moran, on December 4, announced an increase in the price of crude oil. The raise is to become effective January 4, 1937, and will be 17 cents per barrel on crude of 40 gravity and above, and will maintain the usual two-cent differential on crude below 40 gravity. **Page 8.**

THERE are some solid reasons for an increase in the price of crude oil. Above ground stocks are the lowest in 15 years. Gasoline, fuel oils, kerosene and other refined products have moved to higher prices. Demand for crude is running at an all-time peak level. **Page 14.**

ANY controversy over the allocation of production between states failed to develop at the Interstate Oil Compact Commission meeting last week. It had been thought this would occur in view of Texas boosting its output over the Bureau of Mines recommendations. The feature of the meeting was indications that two more states may join, Pennsylvania and Indiana. The remainder of the meeting resulted in nothing but praise for the work of the compact. **Page 9.**

OKLAHOMA producers may declare "war" on Texas as a result of the Texas Railroad Commission having written an order fixing December output of the state over the quota recommended by the Bureau of Mines. These charges were heard when Oklahoma officials refused to sign a previously passed order setting up Bureau of Mines figures as Oklahoma's allowable for December. A rehearing of the situation has been called for December 11. It is anticipated that Oklahoma may seek a five percent increase. **Page 10.**

A NUMBER of economic problems of the industry were considered at the annual meeting of the Independent Petroleum Association of America in Oklahoma City last week. Foremost topic was the drilling of too many wells in existing fields. Several speakers urged less drilling in proved areas as the most important step the industry could take. **Page 12.**

AN order has been issued requiring that wells on the Louisiana side of the Rodessa field can produce from only one of the five horizons unless so completed as to prevent waste. Fifty-eight wells now producing will be repaired or recompleted as a result of the order, which is expected to curtail gas waste. **Page 8.**

THE Texas Division of the Mid-Continent Oil & Gas Association held its annual meeting in Houston last week. Pertinent economic problems of the industry, particularly in the state, were reported upon by committees and discussed by members, and the election of officers held. Jake L. Hamon, Dallas, was re-elected president. **Page 10.**

A VAST amount of territory in the Texas-Louisiana Gulf Coast has not been combed by geophysical instruments because it has been impossible to penetrate the timbered swamps, dense thickets and marshy lakes that cover much of the area. Today, however, operators are finding it possible to shoot these regions because of advancements in seismograph devices, which are more portable than hertofore. **Page 30.**

A simplified method for the calculation of the value of oil land in the exploration stage, combined with a careful analysis of the existing data, would be of great value to oil and lease men. A consulting geologist and a consulting geophysicist have prepared such a report on the Texas-Louisiana Gulf Coast area and it appears in this issue. They draw some interesting conclusions that may be applied in part to other areas. **Page 49.**

WELL spacing involves so many controversial factors that agreement on a definite drilling program has been prevented in the majority of fields. This is particularly true in larger fields, where more operators usually are interested. The question finally boils down to one tinged and fringed with economics, greed common sense and eagerness; and such engineering phases as ultimate recovery and development costs. However, the very fact that leaders of the industry are so diligently pursuing the problem, lends encouragement that at least some definite conclusions of benefit may be reached. **Page 19.**

ADVANCEMENTS in the methods of handling wells are being made by operators along the Barton-Ellsworth Arch of Kansas, where water is expected along with the oil. The present trend is to place the working barrel high in the fluid column and to regulate the number of strokes so that the wells will produce their allowable over a full 24-hour period rather than in a few hours. It is believed that irregular pumping schedules are conducive to irregular water encroachment, whereas a uniform pumping schedule with constant back pressure insures against premature and uneven water intrusion. **Page 26.**

Next Week:

ANOTHER important engineering and economic problem will be discussed in the engineering or feature section of the book next week, when the discussion on well spacing is continued. The first installment of the series of two articles on this subject is in this issue, but it by no means completes the story.

LIKEWISE, M. T. Halbouty will continue to tell about his study of petrographic and physical characteristics of sands from seven Gulf Coast producing horizons. The next chapter of his series is to be devoted to the shape and size of sand grains, which will be amply illustrated with 16 micrographs and 32 histograms.

Higher Oil Prices

CONTINENTAL POSTS 17-CENT RAISE EFFECTIVE JANUARY 4

TULSA.

HIGHER crude oil prices, much discussed in recent weeks, came an important step nearer realization late last week, when several companies, led by Continental Oil Company, announced a 17-cent increase for Mid-Continent crudes, effective January 4.

Late in the week it had not yet become assured, however, that the increase would be generally adopted, as no important statements had issued from other oil companies.

Continental Oil Company initiated the price raising move when it announced the new schedule from its offices at Ponca City, Oklahoma, on December 4.

The announcement was quite unusual in posting increases effective a month ahead, and it was indicated subsequently that other purchasers were cautiously deliberating on what action to take.

Favorable product prices and a strong crude market were generally regarded as virtually assuring general adoption of higher crude postings. But the reaction to Continental's move was not immediately discernible, and it was not known whether the new prices would be met, partially met, or rejected by other purchasers.

Expressing the opinion that the statistical position of the oil industry justifies an increase in the price of crude, President Dan Moran announced December 4 that Continental Oil Company will advance the price in areas in which it is a large purchaser.

The increase, which will become effective January 4, 1937, will be 17 cents per barrel on crude of 40 degrees gravity and above, and will maintain the usual two cents differential on crude below forty gravity. "The reasons for such a decision," said Mr. Moran, "are definitely reflected in the drastic declines in crude inventories, the splendid cooperative spirit exemplified among compact states in their proration proceedings, and the unusual competitive demand for pipe line connections.

"A war among producers is imminent," he continued, "unless fair recognition is given their continued adherence to reduced allowables in isolated fields, where special treatment will be required to perpetuate the balance that must be maintained among producing states and the law of supply and demand. The producer deserves compensation for his adherence to various conservation programs, and a better price undoubtedly will lessen protests against localized reductions in allowables.

"In short," said Moran, "the producer must have higher allowables or higher prices. In the belief that it is for the good of the industry and in the interest of conservation, we have elected to take the latter course.

"It must be kept in mind, however," he concluded, "that to sustain an increase, all producers must do their part, by restricting unnecessary drilling."

The Continental Oil Company purchases in the Rocky Mountain territory, Oklahoma, Kansas and North Texas, approximately 1,000,000 barrels of crude oil per month.

Three companies announced Friday afternoon they would meet the advance in crude oil price as posted by Continental. They were: Barnsdall Oil Company, Tulsa, buying about 10,000 barrels daily; Globe Oil & Refining Company, Wichita and McPherson, Kansas, buying about 11,000 barrels daily; and Derby Oil & Refining Company, also of Wichita, buying about 5,000 barrels daily.

DAN MORAN

Raised the price of crude oil 17 cents per barrel effective January 4, 1937, with statement, producers must have higher allowables or higher prices.

Produce One Sand

RODESSA ORDER REQUIRES RECONDITIONING 58 WELLS

SHREVEPORT.

CONSERVATION Commissioner William G. Rankin of Louisiana last week ordered all Rodessa operators on the Louisiana side to take "immediate steps to repair or recomplete" all wells at Rodessa which are producing from more than one of the five horizons in that field. Wells hereafter can produce both oil and gas from different strata, unless completed so as to prevent waste of either product.

Fifty-eight wells will be affected by the order, including six, which a survey of November 5, 1936, showed had all producing horizons open below final casing string; 29 wells which have three producing horizons open, and 23 which have two sands open.

The producing sands at Rodessa from top to bottom in order are: Hill, Neugent (present only in the northeast part of the field but in some other parts a corresponding horizon known as the Caddo Levee Board exists); Dees; and Young. Although a large number of the wells drilled in Section 14-23n-16w, are affected there are wells with more than one formation open in other parts of the field, including United Gas System's I. L. Young 1, SE SE 21-23n-16w, discovery oil well of the field.

The conservation department, it is reported, will tend to be lenient so as to cause as little inconvenience as possible to operators and it is reported where a well is shut in other producers on the same lease will be allowed to take up the shutdown wells production.

Rodessa's December allowable on the Louisiana side was left at 62,500 barrels and the per well allowable at 225 barrels, both figures being the same as for November. Some wells on the Louisiana side cannot now make their allowable and a recent survey showed the Louisiana side was averaging only 175 barrels daily. During the same survey the average on the Texas side was 201 barrels each.

The new gas-oil ratio order for the Louisiana side of the field is expected to be issued during the coming week, so that little in the way of means of complying with the repairing of wells can be done until that time. Operators are showing a spirit of co-operation. Short strings of casing probably will be set in the affected wells, this practice in a few cases having been inaugurated last September when the first gas oil ratio order for the field was issued.

New Slick Firm

SEELIGSON HEADS MERGER OF HOLDINGS OF LATE TOM SLICK

OKLAHOMA CITY.

THE name of Tom B. Slick will soon be removed entirely from the oil industry. The final step in merging the vast properties left by him are to take place December 15. The holdings of the Tom B. Slick estate and Slick-Urschel Oil Company at that time will merge into a newly formed concern, Transwestern Oil Company of Oklahoma. A number of subsidiary companies and partnerships already had been taken over.

Arthur A. Seeligson of Oklahoma City will head the new company. Charles F. Urschel and Mrs. Bernice Slick Urschel will retire from management of the properties, but will hold a large block of stock in the new company. Reports state the Urschel are to receive a large cash payment in addition to the stock.

The statement of registration filed with the federal securities and exchange commission in Washington showed Transwestern Oil Company would have a capital stock issue of $11,072,800. Some $9,500,000 of this amount is expected to be used in acquiring the holdings of Mr. and Mrs. Urschel.

Thus the famed name of Tom B. Slick, "king of the wildcatters" is to disappear from the oil industry except in memory. Slick died in 1930, at which time Charles F. Urschel took charge. Seeligson has long been associated with the Slick interests, and is a member of the family. He married Mrs. Slick's (now Mrs. Urschel) sister.

It is the intention of Transwestern Oil Company to become more active as a producing unit. The company has been inactive since the death of Slick, except to drill the necessary number of wells to protect or hold property. It is estimated the company now has near 100,000 barrels daily production in three states and also vast royalty interests. In addition the concern has large undeveloped holdings in Kansas, Oklahoma and Texas.

A. A. SEELIGSON

Heads newly organized Transwestern Oil Company, which is to take over the large holdings left by the late T. B. Slick, "King of Wildcatters."

GOVERNMENT SUES

Six concerns charged with chiseling Indians

WASHINGTON, D. C.

CHARGING "chiseling" in connection with the purchase of oil from the Osage Indians, the Department of Justice on November 28 announced the filing of a suit in Oklahoma against six oil companies.

The filing of the suit, following the extensive investigations of alleged conspiracy at Madison, Wis., which already have resulted in the issuance of two indictments, one of which went to trial this week, was seen in Washington as evidencing a determination on the part of the Government to "clean up" the petroleum industry.

The defendants named in the Oklahoma proceedings are Carter Oil Company, Sinclair Prairie Oil Company, Stanolind Crude Oil Company, Oklahoma Pipe Line Company, Stanolind Pipe Line Company and Sinclair Prairie Pipe Line Company. The first three were alleged to be purchasers of the oil, and the others transporters.

The department alleges the purchasing companies deducted three percent in measuring oil received from the Indians, ostensibly "on account of dirt and sediment," while the transporting companies are charged with reporting less than the amount of oil actually received.

These practices, the Government claims, were carried on over a period of some 20 years and involve amounts totalling several million dollars.

The suit was brought by the department at the request of Secretary of the Interior Harold L. Ickes, responsible for the welfare of the Government's Indian wards, and, it was said, will be followed by further suits against other purchasing and pipe-line companies.

Compact Praised

NO ALLOCATION CONTROVERSY: TWO MORE STATES MAY JOIN

OKLAHOMA CITY

ALTHOUGH the Interstate Oil Compact is a treaty under which its state members are under pledge to work in the interest of physical conservation, several hundred oil producers waited for disagreement to break out and its membership to engage in heated controversy at the quarterly session of the commission here December 1. Producers from Oklahoma and Kansas hoped a few words of condemnation would be uttered against action of the Texas Railroad Commission which has fixed the allowable for that state higher than recommendations of the United States.

What they heard, however, was words and more words in praise of the compact, its membership, numerous state officials many officials of trade associations and double praise for an industry which provides cheap products for the public, makes a profit for itself and enjoys satisfactory prospects. Few neglected to give the Interstate Oil Compact credit for this condition.

What some Oklahoma conservation official may think of some Texas conservation official finds expression only in corridors and anterooms. When Interstate Oil Compact Commission is in session words are fitly spoken in harmonious family style.

The commission did hear that Pennsylvania and Indiana are likely to become members next year, that efforts are being made to gain membership from other states. The next quarterly meeting will be held in Oklahoma City, March 12, and the one after that will be held in Santa Fe, New Mexico, June 11. A resolution was adopted suggesting that the United States Bureau of Mines speed its work of determining the recoverable value of oil in storage. The chairman was authorized to name a committee to assist other states in preparing legislation by which they may become members. This committee also will draft the legislation by which Congress will be requested to extend the life of the compact after September 1, 1937.

That the compact is without authority to interfere in proration matters within a state was stated by Homer Hock, the member from Kansas. "The compact," he stated, "has no coercive powers. It is a

clearing house of information. It could have few coercive powers under the constitution. If it did have such power, its efforts to enforce them would lead to so much friction that the compact would fall apart."

Elwood Fouts, attorney of Houston, Texas, classed the compact as the only organization he knew, "which has as its sole objective the welfare of all the people."

Axtel J. Byles, president of the American Petroleum Institute, said, "The Interstate Oil Compact Commission is a true example of democratic self government for national welfare."

Charles F. Roeser, president of the Independent Petroleum Association of America, gave the compact credit for a feeling of security among oil producers.

Ordinarily a meeting of no more consequence than all this would meet before some empty chairs. But this session drew a packed house. The Texas Railroad Commission last week set the allowable of that state a little higher than the federal figure of indicated demand for December. The chairman of the Texas commission was present as chairman of the compact commission. Certainly a few in the audience expected some Oklahoma or Kansas member to mention the Texas allowable. What happens within a state is not proper business for the compact.

Texas Meeting

MID-CONTINENT ASSOCIATION DISCUSS ECONOMIC PROBLEMS

HOUSTON.

THE annual meeting of Mid-Continent Oil & Gas Association, Texas Division, held December 4 and 5 at Houston, was featured by reports and discussions on taxation, social security, theft of oil field equipment, and other problems affecting the petroleum industry. Presentation of distinguished service rewards to four outstanding Texas oil men also was a highlight of the Friday morning session, which was attended by several hundred oil men from all parts of the country. All officers of the association were reelected.

The report of the Tax Men's Committee was made Friday morning in the form of a paper by John P. Morgan, Sun Oil Company, Dallas, chairman of the committee. He stated that taxation has become the largest industry in the United States today—much larger than the oil industry itself, and that this fact renders it dangerous to our very existence. Members of the oil industry cannot compete with taxation as a business because it is founded on a different premise from their business, he added.

Morgan stated that one of the surest ways to check the tide of increasing taxation on the oil business is to acquaint members, the tax levying and collecting agencies, and the public at large with the excessive tax load the industry now is bearing. He added that actual investigation has shown that the economic limit of taxes on oil has been reached in Texas.

Some of the oil producers have little time to make a practical analysis of their tax costs. They know generally that there is a factor other than the direct lifting cost that is increasing their operating cost and decreasing their profits, Morgan stated, and that factor must be attributed to tax item. These producers are beginning to realize that if taxes continue to increase, it is only a question of time until their property is confiscated through the machinery of taxation, he added. Morgan urged a united front in the fight against increased taxation

The report of the Special Tax Committee was presented by Joe S. Bridwell, prominent oil operator of Wichita Falls. He pointed out that more than 13,000 producing wells in Texas have been abandoned during the past five years, many of them leaving a large

[*Continued on page 62*]

Threaten Increase

OKLAHOMA AND KANSAS MAY MATCH TEXAS OUTPUT BOOST

OKLAHOMA CITY.

OKLAHOMA oil producers will have opportunity December 11 to get in step with those in Texas in the matter of daily allowed output in excess of recommendations of the United States Bureau of Mines. The date for re-hearing and reviewing of testimony taken November 27 was announced by the Oklahoma Corporation Commission December 1. Meanwhile the November allowable, 556,400 barrels daily, will remain in effect.

Previously the Oklahoma regulatory body had written an order to fix December output at 566,000 barrels, the figure recommended by the Bureau of Mines. When it was learned, however, that the Texas order for December had exceeded the recommendation from Washington, members of the Oklahoma group declined to sign the order. After prolonged conferences between officials of Texas, Oklahoma and Kansas, the Oklahoma commission announced its rehearing.

Kansas conservation officials, here for the meeting of the Interstate Oil Compact Commission December 1, declined to make statements as the course that will be taken at Topeka. The Kansas Corporation Commission has approved an order fixing the allowable at the figure recommended by the Bureau of Mines.

It is likely that the revised order for Oklahoma will be five percent in excess of figures compiled in Washington to indicate demand for the month. A similar revision in Kansas would boost allowable for the two states by 50,000 barrels.

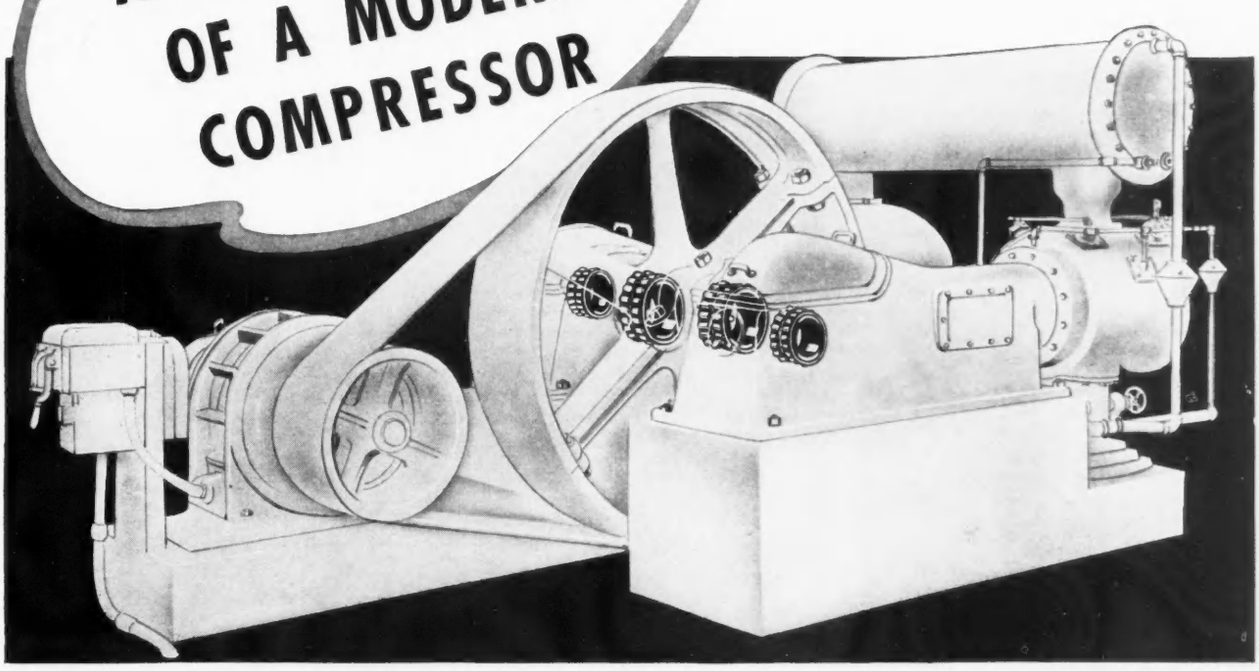
The controversy over allowable between states overshadowed proceedings of the annual convention of the Independent Petroleum Association of America and the quarterly meeting of the Interstate Oil Compact Commission here November 30 and December 1. Oklahoma conservation officials in particular were critical of the Texas increase. The Oklahoma commission has legal authority for considering market demand in fixing allowable.

The Texas statute on conservation allows the Texas body to write its orders on conservation. Prevention of physical waste is the primary consideration in Texas. Colonel E. O. Thompson, chairman of the Texas Railroad Commission and chairman of the Interstate Oil Compact Commission reiterated this fact when he appeared on the program of the Independent Petroleum Association of America.

JAKE L. HAMON

Under whose leadership last year the Mid-Continent Oil & Gas Association of Texas returned to activity, was reelected president.

AN X-RAY VIEW OF A MODERN COMPRESSOR



Tapered Roller
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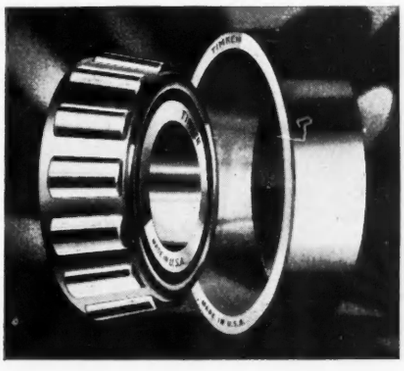
EQUIPPED

A symbol of quality for any piece of equipment with which it is associated



As in the case of oil field engines, a sure sign of modern-ness in compressors is the presence of Timken Bearings on the main shaft. They are used for the same reasons, too, namely to permit faster, smoother operation; to eliminate wear on the crank shaft; to protect the shaft against radial, thrust and combined loads; and to hold it in correct and constant alignment.

To assure these results compressor manufacturers know there is no substitute for the exclusive combination of Timken tapered construction, Timken positively aligned rolls and Timken Alloy Steel.

THE TIMKEN ROLLER BEARING COMPANY, CANTON, OHIO

TIMKEN TAPERED ROLLER BEARINGS

I. P. A. A. Meeting

NUMBER OF WELLS DRILLED FOREMOST TOPIC AT SESSIONS

By JACK CASBURN, Staff Writer

OKLAHOMA CITY.

UNNECESSARY drilling within existing fields was singled out as the foremost problem before the petroleum industry at the seventh annual meeting of the Independent Petroleum Association of America here November 30 and December 1. It was branded by Charles F. Roeser, president, as a cycle by which oil producers continue to make additional capital investment while proration requirements prevent immediate income from the investment.

J. D. Collett, president of the Mid-Continent Oil & Gas Association, cited examples of oil producers spending several hundred thousand dollars during the year only to come to the end of the period with total allowed daily output no greater than before drilling the wells.

A sub-committee on the problem made an elaborate report and suggested its remedies. The report, however, came to adoption only as a program to be recommended to regulatory bodies rather than as a plank in the program of the association.

Russell B. Brown, Washington counsel, told the members that he expected no radical and destructive legislation from the next session of Congress. He advised the association to seek favorable legislation by convincing law makers of the justness of the plea of industry.

The program of the association was set forth in the following resolution:

1. The adoption by Congress of Legislation definitely limiting the importation of foreign petroleum and its products to a fixed ratio to the estimated demand for consumption in this country and for export from this country.

2. A continuing survey of the quantities and quality of crude oil in storage, with a view to ascertaining whether this is or is not at its economic level, with the purpose of avoiding either uneconomic additions to or uneconomic withdrawals from storage.

3. Some practical method whereby domestic production shall be held within the limits of national consumptive demand with each state so far as this may be possible, assured of its equitable and proper share of the total national production.

4. The discontinuance of the costly and excessive drilling which adds to production costs, causes a decrease in daily allowables per well and rarely results in advantage to any, substituting for this practice provision for the planned, orderly development of fields and pools by agreement.

5. Provision for voluntary agreements within the industry, subject to the approval of a proper federal agency.

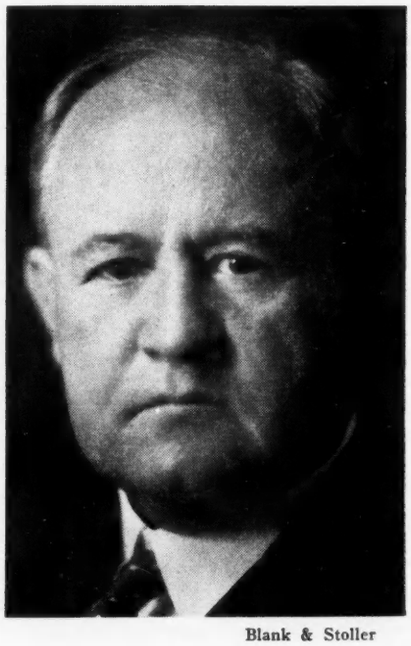
Among other resolutions passed one called upon Congress to extend the life of the Interstate Oil Compact treaty, which expires September 1, 1937. Another resolution called upon state legislatures to discontinue the diversion of gasoline taxes from highway purposes, along with this was one urging the use of domestic asphalt in highway construction.

In citing the purpose of the organization, Roeser said, "One year ago we adopted a program which set forth principles and policies which we believed important to our own success, and equally important to the welfare of

[*Continued on page 61*]

Krupnick—Tulsa

Krupnick—Tulsa



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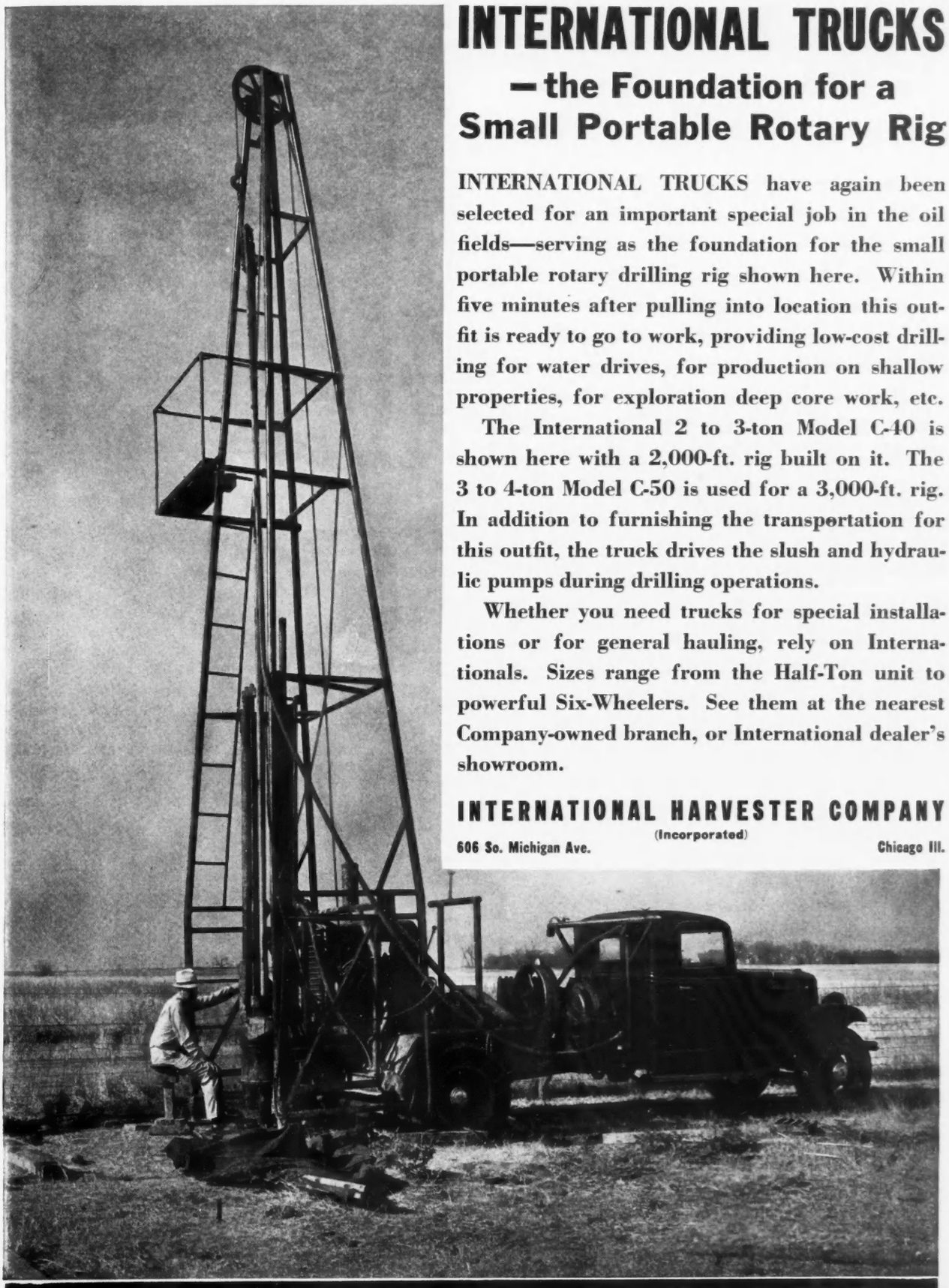
OFFICERS REELECTED

All officers of the Independent Petroleum Association of America were reelected at the annual meeting held in Oklahoma City last week.

Officers are: Charles F. Roeser, (left, above) president; Harold B. Fell, (left, below) executive vice president; Russell N. Brown, (right, above) general counsel; N. T. Gilbert, (right, below) treasurer; T. J. Steuart, assistant to the president; and C. E. Buchner, executive manager.



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The International 2 to 3-ton Model C-40 is shown here with a 2,000-ft. rig built on it. The 3 to 4-ton Model C-50 is used for a 3,000-ft. rig. In addition to furnishing the transportation for this outfit, the truck drives the slush and hydraulic pumps during drilling operations.

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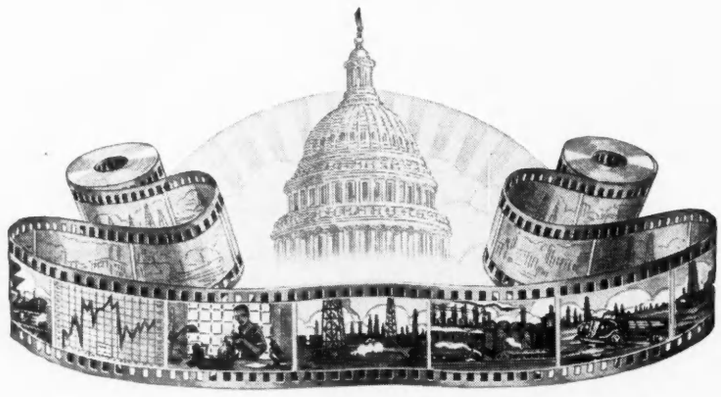
INTERNATIONAL TRUCKS

The Changing Panorama



THE OIL WEEKLY'S COMPOSITE VIEW OF INDUSTRY

Edited by L. J. LOGAN, Associate Editor

THE little birdie had been whispering in so many ears about a possible crude raise, that it was no great surprise late last week when the heralded increase began to take definite form in the tense atmosphere.

It was to be a 17 cent increase in Oklahoma, Kansas, North Texas, and the Rocky Mountain states, and it was to become effective January 4, 1937—a month later.

The higher prices were to be paid at least by Continental Oil Company, which initiated the increase, and by Barnsdall Oil Company, Globe Oil & Refining Company, and Derby Oil & Refining Company, which followed suit.

Whether or not the Continental schedule would be generally accepted remained to be seen.

The other purchasers still had a month to think the matter over.

General Increase Likely

It seemed quite likely that a general increase was inevitable, and that it must occur within a few weeks, in view of improved product prices and the existing tight crude market.

But it was not assured that other purchasers would see eye to eye with Continental on the amount of the increase.

There was a possibility that the other concerns would be willing to raise prices but not as much as 17 cents, and that Continental and followers might be obliged to reduce their postings to the general level.

However, the 17 cent increase was about in line with the general expectations. Many had assumed that the increase would be probably 10 or 15 cents a barrel.

Industry's Position Favorable

It must be conceded that there is a sound basis for the move toward higher crude oil prices. In relation to prevailing demand, above ground stocks of oils are at the lowest proportions for over 15 years. Inventories have been brought down, through long and strict control of production, until they are low enough to promote generally firm markets for both refined products and crude. Gasoline, fuel oils, kerosene, and other products have continued to move upward to higher price levels. These gains in prices have reflected the fact petroleum products are in greater demand this year than ever before in the history of the industry.

The demand for crude oil consequently has been running at an all-time peak level, and with crude production effectively curtailed, the crude market naturally has been remarkably firm. In some instances refiners have been having difficulty in obtaining adequate supplies of the raw material for their plants. Purchasers are hanging on tenaciously to their well connections, and producers readily find buyers for the output of their new wells.

Product Prices Justify Crude Raise

It is the present favorable market for petroleum products that most obviously justifies the inauguration of higher crude prices. The current crude prices were inaugurated soon after the commencement of this year, and at that time they were generally regarded as justified by the then prevailing product prices. But since then, there has been further improvement of the product prices, while the crude prices have remained unchanged. The crude postings would have to be raised slightly to be brought back into the former relation to the product prices.

Gasoline tank car prices at present are around one-quarter cent a gallon higher than a year ago. The average retail price of gasoline also is up a similar amount.

Gas oils and fuel oils similarly have improved from ¼ to ⅜ cent a gallon since a year ago.

These increases in product prices have been sufficient to justify the refiner or purchaser in paying at least 10 cents a barrel more for crude oil.

Producing Costs Higher

It has become increasingly important, moreover, that crude prices should be increased as much as is

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Better Control over Drilling Operations
Quieter Running when Drilling
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NSCO

National

warranted by the improvement in product prices. For the producer's costs have increased during the past year, and better crude prices are needed in compensation.

The cost of producing oil has been increased not only by higher costs of materials and labor, but also by steadily diminishing well allowables under proration, with new wells and fields coming into the picture to share in the available market.

Consequently, there has arisen increasing pressure from producers for an increase in crude postings.

Their cause is strengthened, furthermore, by the circumstance that the producers, cooperating in the restriction of crude output, have done much toward making possible the present stability in the industry. Higher prices would be a reward for sacrifices that have been made.

I. P. A. A. Objectives Outlined

Among the interesting developments at the annual convention of the Independent Petroleum Association of America at Oklahoma City last week was the revelation that the group has a four-point program for recommendation to Congress when the law makers convene early next year.

The I. P. A. A. will seek: (1) repeal of the one-cent-a-gallon federal tax on gasoline; (2) continuation of the Connally law against interstate shipping of hot oil, which expires in 1937; (3) renewal of the federal government approval of the interstate oil compact, which expires in September, 1937; and (4) continuation and increase of the excise taxes on oil imports and limitation of oil imports to 4.5 percent of the domestic production.

The I. P. A. A. also made an appeal to the oil industry for a reduction of drilling, in both proved and unproved areas, since excessive drilling increases producing costs and makes production control more difficult.

Oil Compact Extension Favored

At the Interstate Oil Compact Commission meeting at Oklahoma City last week it was indicated that the compact not only will be renewed but that it will be enlarged to include additional oil producing states. Two states, Michigan and Indiana, are expected to join the compact when their legislatures meet in January. The compact at present embraces six states, Oklahoma, Kansas, Texas, New Mexico, Colorado, and Illinois.

Last week's compact meeting was attended by representatives of the six member states, and of Michigan, Indiana, California, Pennsylvania, Ohio, and Kentucky. The next meeting is scheduled for March 12 at Oklahoma City and the following meeting in June at Santa Fe, N. Mex.

Texas Action Not Questioned

At the compact meeting last week there was no official cognizance of the Texas Railroad Commission's recent action in fixing the Texas allowable as of December 1 about 56,000 barrels a day higher than the Bureau of Mines recommendation. In that connection, it was pointed out that the compact has no authority to dictate policies within the different states; that its function is simply to promote cooperation among the states in conserving oil and gas, through prevention of physical waste, with each state handling its own internal problems.

Colonel Ernest O. Thompson, chairman of the Interstate Oil Compact Commission, as well as chairman of the Texas Railroad Commission, pointedly recited the above purpose of the compact, and asserted that the Compact Commission, like the Texas Railroad Commission, could not justifiably try to make oil dear by making it scarce.

It was obvious that the Texas Railroad Commission considers Texas allowables the sole responsibility of itself and not of the Interstate Compact; that the Texas commission felt its recent course was not only safe but right; and that the commission proposed to go ahead on its selected course despite any attempts at interference.

Confidence in Commission Voiced

Along with firmness, however, the Colonel from Texas radiated fairness and dependability, and the general reaction was voiced, perhaps, by Tom Anglin, Oklahoma's representative on the Interstate Oil Compact Commission. Said Anglin: "Colonel Thompson, who now allocates 40 percent of the national oil production, will not do anything that will be detrimental to any other state, I am sure."

That statement embodied a lot of logic and reassurance. Since Texas produces 40 percent of the national crude oil output, the state's welfare depends greatly on the oil industry's fortunes. Texas could not afford to stay long on a course leading to instability in its leading industry. If Texas allowables prove uneconomic or unsound, the Texas Railroad Commission has no choice but to correct them.

Bureau Allocations Under Scrutiny

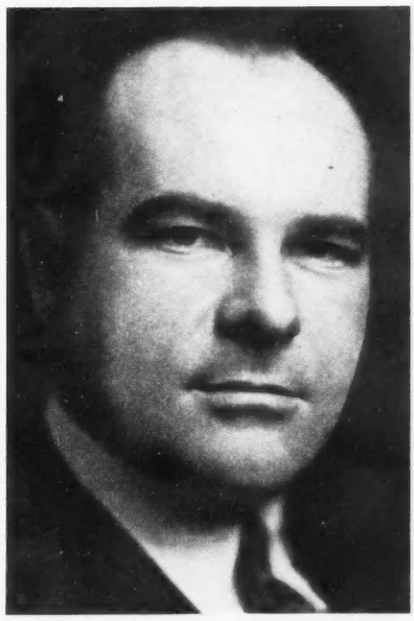
While carefully trying to avoid creating any disorder, the Texas Railroad Commission obviously feels that it has the responsibility of reasonably protecting the markets of the producers that it regulates. The commission for many months, in the interest of harmony and stability of the industry, has accepted wholly the recommendations of the Bureau of Mines in fixing Texas allowables. But finally, deciding that the surveys from Washington might not be entirely correct, the Texas commission also took into consideration its own data on market demand and began fixing the Texas allowable accordingly.

Apparently, the Texas commission does not by any means intend to discredit the federal bureau or to reject the cooperation of the bureau. On the contrary, the Texas commission's criticism is strictly of a constructive nature. This is evidenced by the fact Colonel Thompson has been and still is promoting a comprehensive survey of the oil storage situation by the Bureau of Mines. The colonel, himself, believes storage already has been reduced to a sound, minimum working stock basis, and that allowables should not contemplate further withdrawals. So that more definite information on stocks may be available, the Texan last week obtained from the Interstate Oil Compact Commission permission to urge the Bureau of Mines to employ extra men so as to expedite the storage investigation.

MEN IN THE INDUSTRY'S NEWS

RICHARD T. LYONS RESIGNS AS VICE PRESIDENT OF SKELLY OIL COMPANY TO GO WITH TIDE WATER ASSOCIATED

WILL MOVE TO HOUSTON TO HEAD THE LAND AND GEOLOGICAL DEPARTMENTS OF COMPANY



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RICHARD T. LYONS

RICHARD T. LYONS, who has been vice president in charge of the land and geological departments for Skelly Oil Company in Tulsa, has resigned to go to Houston, Texas, where he will become head of the land and geological departments of Tide Water Associated Oil Company. Lyons was born December 4, 1895, at East Weymouth, Mass. He attended the University of Maine, Massachusetts Institute of Technology and Harvard University. His first position in the oil industry was as an instrument man and geologist for Sinclair Gulf Oil Company. From 1920 to 1921, he was geologist for Maracaibo Oil Exploration Corporation in Venezuela, South America. He was a geologist for Sinclair Oil & Gas Company from 1921 to 1923, when he joined The Pure Oil Company as a geologist. In 1924, he went with Skelly Oil Company as a geologist, and successively was promoted to district manager of the land department, head of the land department, and then vice president and director, which position he resigns to go with Tide Water Associated Oil Company.

W. T. HELTZELL, general superintendent of Stanolind Pipe Line Company, spoke before a meeting of the Mid-Continent section of the American Society of Mechanical and Metallurgical Engineers November 30 on "New Innovations in Pipe Line Construction, Maintenance and Salvage." A new picture showing recent developments made by Stanolind was shown to illustrate the talk by Heltzell.

J. M. NISBET, manager of the land and geological division of Empire Oil & Refining Company, has resigned, effective January 1, 1937. He was employed by the Empire Companies in 1916 upon graduation from Stanford University, where he specialized in geology and mining. After various field assignments in Kansas, Louisiana and Texas, he was transferred to the Bartlesville office in 1921, where he was later promoted to chief geologist. In March, 1934, he was promoted to his present position in charge of geological work and leasing for the company. Nisbet plans to locate in Upland, California, for the present where he will devote his time to his personal interests.

L. L. AUBERT, Bankline Oil Company, Los Angeles, has been appointed chairman of the Pacific Coast District Chapter of the American Petroleum Institute's Division of Production. He succeeds the late Roy Silent. The appointment was made by Walter H. Meier, Atlantic Oil Producing Company, Dallas, who is chairman of the Central Committee on District Activities, with the approval of W. L. McLaine, General Petroleum Corporation, Los Angeles, who is chairman of the Pacific Coast District Advisory Committee. Aubert's term will terminate the next spring meeting of the district. He was formerly vice chairman of the Los Angeles Basin area.

The Oil Man's Calendar

DEC. 15	**Mid-Continent Oil & Gas Association, Annual Meeting of General Board of Directors, Tulsa, Oklahoma.**
JAN. 16–24	**First International Consumers Petroleum Exposition, Detroit, Michigan.**
FEB. 15-19	**American Institute of Mining and Metallurgical Engineers, New York**
MAR. 17–19	**American Association of Petroleum Geologists, Los Angeles, California.**
APR. 8–10	**Petroleum Industry Electrical Association, Shreveport, Louisiana.**
15–16	**National Petroleum Association, Cleveland, Ohio.**
JUNE 1–3	**American Petroleum Institute, Mid-Year Meeting, Colorado Springs, Colorado.**

C. J. FOWLSTON has resigned as general superintendent of North American Oil & Gas Company and Northern Natural Gas Company to become associated with Tri-County Gas Company at Scott City, Kansas. He has been identified with gas development in the Amarillo district since 1926, when he came to the area with Shell Petroleum Corporation as gas engineer. He went with North American and Northern Natural, affiliated companies, in 1930 when these concerns completed their gas lines to the northern and eastern markets. His district covered all the Texas Panhandle, Oklahoma Panhandle and Western Kansas.

OSCAR HATCHER, chairman of the Ada chapter of the American Petroleum Institute, was reelected for the coming year at a meeting held in Ada November 27. The chapter is also starting a vigorous drive to secure the spring meeting of the Mid-Continent section of the A. P. I. Hatcher is with E. H. Moore, Inc.

JOE T. DICKERSON, manager of the legal department of Mid-Continent division of Shell Petroleum Corporation has been promoted to head of the general legal department of the company with offices at St. Louis, Missouri, and will assume his new duties January 1.

BYRON BEEBE, geologist with Shell Petroleum Corporation, left Tulsa December 5 for St. Louis, where he will become assistant to Dr. Robert Davis, who is assistant to Dr. Van Holst, Pelakaan, vice president in charge of exploration for Shell. Beebe is a graduate geologist of the University of Wichita.

J. E. JOHNSON, Tide Water Associated Oil Company, has been proposed to succeed H. D. Patridge, Indian Territory Illuminating Oil Company, as president of the Petroleum Motor Transport Association, by the nominating committee of that organization, which met November 28. Other officers included in the slate were Charles H. Rudy, Ohio Oil Company, proposed as first vice president to succeed Johnson; H. L. Armstrong, Skelly Oil Company, second vice president and L. E. Schroeder, Mid-Continent Petroleum Corporation renamed as secretary-treasurer.

TOM S. COX, for the past several years independent geologist and operator in South Texas, has accepted the position of division geologist for Plymouth Oil Company in West Texas and New Mexico, offices at Texon. In the department with Cox will be Harry Birdson, who was in the scouting and land department of World Oil Company for several years.

R. H. DURWOOD, who for the past several years has been in the geological department of Plymouth Oil Company, San Antonio and Sinton, resigned from that company's staff, effective December 1, to enter the consulting field. He also is a magnetometer operator.

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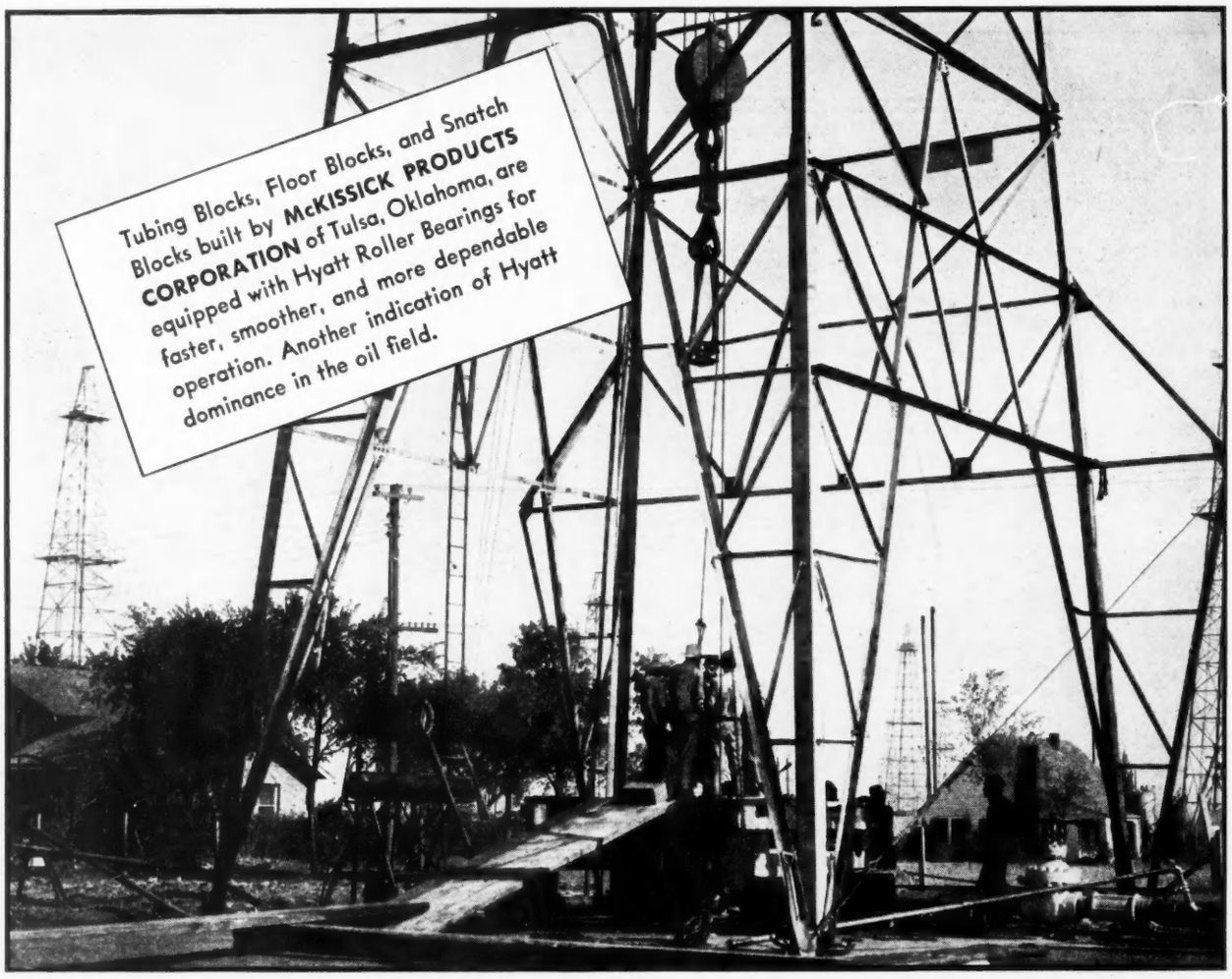
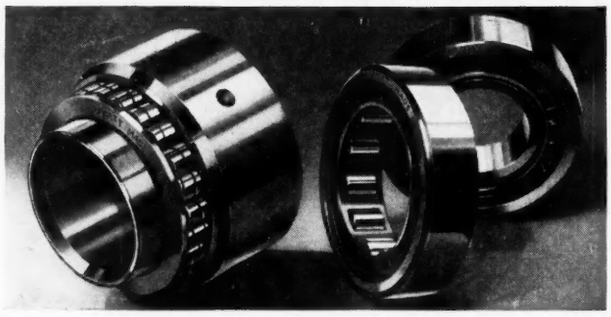

Tubing Blocks, Floor Blocks, and Snatch Blocks built by McKISSICK PRODUCTS CORPORATION of Tulsa, Oklahoma, are equipped with Hyatt Roller Bearings for faster, smoother, and more dependable operation. Another indication of Hyatt dominance in the oil field.

KEEPING *Several* STRIDES AHEAD...WITH

HYATT ROLLER BEARINGS

FROM the day anti-friction bearings were first applied, down through the years, each major development in machine design finds Hyatt out in front with improvements in bearing design, manufacture, performance. « And, as time goes on, the basic Hyatt characteristics of greater precision, higher capacity, and smoother operation are constantly perfected. « Not only has Hyatt kept pace in producing bearings to meet specifications, but many times has introduced application innovations. « The ever-increasing use of Hyatt Roller Bearings, year after year, indicates how such diligence is richly rewarded. Hyatt Bearings Division, General Motors Corporation, Newark, Detroit, Chicago, Pittsburgh, San Francisco.



MANY FACTORS MUST BE CONSIDERED IN DETERMINING WHAT IS EFFICIENT

Well Spacing

By BRAD MILLS, Associate Editor

« PART 1 »

WELL spacing usually involves a number of controversial factors that prevent agreement on a definite drilling program in major fields. This is especially true where a large number of operators are involved, or where varied interests and requirements must be considered. In the absence of comparative data within a given field, it has been difficult to prove that any selected well spacing program has been either effective or ineffective. Lack of tangible evidence upon which to base conclusions has checked progress along a given course, but through a comparison of one field with another of similar nature, the effect of close or liberal well spacing has been observed.

So many factors enter into a well spacing plan that it would be impossible to follow a program serving all interests to advantage. The question finally boils itself down into one that is both tinged and fringed with economics, greed, common sense, eagerness and inexperience, with common sense perhaps the least potent of all factors involved.

Beyond a definite limit it is impossible to continue drilling and expect a profit on invested capital. The value of the recoverable oil in a number of fields does not exceed the drilling costs, plus anticipated operating costs. Where there is no blanket margin of profit in sight, many operators ultimately must show a loss. Such a condition exists in a number of townlot fields and in a few intensely developed areas that produce from thin sand sections.

Experience and actual comparative data show that either of two well spacing extremes is not justified. One well to every hundred acres in many fields would be far too few, while one well to each acre in the same field would be far too many. Calculation of the oil in place shows that it is economically impossible to drill beyond a certain limit, but it does not follow that the smallest possible number of wells would give best results.

The careful weighing of several major factors is necessary before inaugurating a well spacing program. Depth of wells, drilling costs, formation conditions, lease costs, market demands, operating costs, size of leases, recoverable oil, and location are but a few of the factors affecting well spacing within a given field. By further breaking down the field problem, it is necessary for each operator to protect his leases from drainage, where no spacing agreement has been reached. The race to obtain a high percentage of oil in place under each lease often causes an operator to break certain fundamental laws that lead to a loss instead of a profit.

Two Different Schools

Two distinct schools of thought exist, one holding to the theory that close well spacing will give a maximum recovery of oil, and another favoring an extremely conservative spacing program. Both of these factions can present arguments favoring their respective theories, but in the average field there are so many factors affecting the ultimate recovery that it is fairly safe to say that either of the extremes could be safely attacked. Unprejudiced engineers insist that it would be an easy matter to over-space or under-space wells in the average oil field.

In calculating the number of wells that would give the maximum ultimate recovery of oil, economics must not be considered. In some fields it might be possible to obtain the greatest amount of oil by drilling twice as many wells as would return a profit. In other fields the greatest amount of oil might be obtained by drilling only a small number of wells in the entire field. The recovery of 50 percent of the oil in place would not be an accomplishment if such a high yield was obtained by drilling too many wells. Fewer wells and a smaller recovery might return a satisfactory profit in such a field.

Fields of other types do not require a large number of wells to register maximum yields per acre, conservative engineers claim. Thus in a water drive field it might be possible to obtain the greatest amount of oil with only 100 wells. Such a small number of wells probably would conflict with economic factors, however, and 500 wells might be necessary to meet requirements. It is generally admitted that an excess of wells, above the ideal maximum, is justified where other factors are top-heavy. In only a few fields does lease ownership permit extremely wide spacing. The time element, capital investment, and current requirements often justify a closer well spacing program than one that would give the maximum recovery of oil over an indefinite period. Under no condition, except in time of war or a national emergency, should drilling be deliberately carried to a point that will return a loss.

Experiments conducted by a number of major producing companies support the theory that well spacing is less important than production methods in the consideration of ultimate recovery. Theoretically there is no limit to the drainage area of a well, one major company contends, although it is admitted that a perfect structure does not exist. A few wells

spotted advantageously in the average field ultimately will yield more oil than a much larger number of wells closely spaced would yield, one major operator believes. In arriving at this conclusion, economic factors were not considered, and the production rate of the few wells was fixed at a level that would insure the maximum utilization of the formation energy.

Principal factors affecting well spacing are structural make-up and structural irregularities. Lenticularity is of extreme importance in a well spacing program. Few producing zones are uniform over an entire field, particularly in the California type producing formation and lime belt fields. Operators agree that it is necessary to tap all major producing strata within a given horizon to obtain a satisfactory drainage of the field. All peculiarities of a producing horizon must be recognized and respected when formulating a well spacing program. It is possible that many sand lenses will not justify inclusion, even at the expense of greater recovery of oil. Additional drilling often is necessary to find porous spots in lime formations, but only a limited amount of this type of work can be done at a profit.

A few engineers believe that recovery varies as the square root of well density, but there are many reasons to discard this thory in the light of recent observations. In one field where high recoveries apparently were obtained by close well spacing, it was later established that a high percentage of the recovered oil was drained from great distances. It was indicated by the subsequent action of the field that a wider spacing of wells would have resulted in a greater flowing recovery. Remote parts of the field were affected by the rapid withdrawal of oil from a closely spaced group of wells that showed a high gross recovery.

There is no way to determine the exact drainage force of a well at any distance from the well, since too many factors must be considered. The force certainly diminishes as the distance is increased, but in a porous producing formation the effect of a moderate withdrawal is felt for a great distance.

Production Methods Are Factor

Production practices definitely affect the ultimate recovery of oil in the three types of oil fields. These types are the true water drive, gas-in-solution field; the water drive, gas cap field; and the true gas cap field. In each type of field a slow production rate gives a higher ultimate recovery than a very rapid withdrawal rate, according to experiments concluded by a major producing company. A number of substantial companies hold to the claim that as much oil may be recovered by rapid withdrawal as by more conservative production practices.

In the East Texas field, where 22,000 wells have been drilled on 125,000 acres, one of the principal operators believes that 1250 wells, or one to each hundred acres, would have been enough to obtain the maximum recovery of oil. This belief is based on the fact that sand conditions in the field are fairly uniform and the structure comparatively flat. If the field had been a pronounced anticline, it might have required 5000 wells, or one well to about 40 acres, to obtain the greatest ultimate recovery of oil, according to one large operator. One group of engineers holds to the claim that even one well to every acre would give a greater ultimate recovery than any smaller number of wells.

The Thompsons, Texas, field offers an unusual opportunity to study the effect of a conservative well spacing program on bottom-hole pressure. One well to every 20 acres has been drilled in this field and about 160 wells have been completed. Current production varies from 8500 to 10,000 barrels daily. The bottom-hole pressure now is as high as that recorded when the first pressure tests were made. At one time during a heavy withdrawal period the bottom-hole pressure declined, but subsequent return to a lower production rate caused the pressure to rise to its original level of about 2350 pounds. A very conservative production rate and wide well spacing apparently have accounted for full maintenence of formation pressure in this water drive field. Production is obtained from a 200-foot thickness of sands between 4800 and 5100 feet. No repressuring work has been done in this field and only natural forces could have maintained the pressure.

All producing companies agree that a small number of wells is preferred to a larger number of wells, where the smaller group gives equal or better results. Lack of agreement on the relative merits of close and wide spacing has prevented the use of sensible development plans in many major fields.

One well known petroleum engineer claims that well spacing and ultimate recovery are not so closely related as ordinarily believed. He holds to the theory that it does not matter whether 50 or 100 wells in the average field are drilled, since the field eventually would be drained in either case. In many fields only a few wells would be required to obtain the greatest ultimate recovery under this plan of development. Serious opposition to this type of well spacing has been advanced by the faction favoring close spacing.

Several Oklahoma City operators recently took strong exceptions to the statement that development of one side of a field necessarily drains both sides. Developments had shown, it was claimed, that drainage from the north end of the field was negligible while the south end was under development, although the first wells completed in the north end indicated a formation pressure of less than 600 pounds. The close spacing faction insists that the oil was not drained from the north end of the field, despite the great loss of formation pressure during the heavy withdrawals of oil from the south end. The heavy movement of gas and loss of formation pressure apparently were not accompanied by an appreciable movement of oil. Recent close spacing of wells in the north end of the field resulted in a high initial flow, despite a formation pressure that averaged less than one-fourth that originally shown by the south end. The Oklahoma City field has a peculiar producing formation condition not found in another American field, and a well spacing program suited to this field might not meet the requirements of another producing area. The gas lost from the upper part of the producing zone probably was replaced by oil under a reduced pressure.

Problem is Deadlocked

The well spacing problem, as it now stands, is deadlocked in many producing districts. The mere mention of this phase of development seldom fails to precipitate an argument, and due to lack of comparative evidence within a given field, neither side can present a winning punch in the controversy. Engi-

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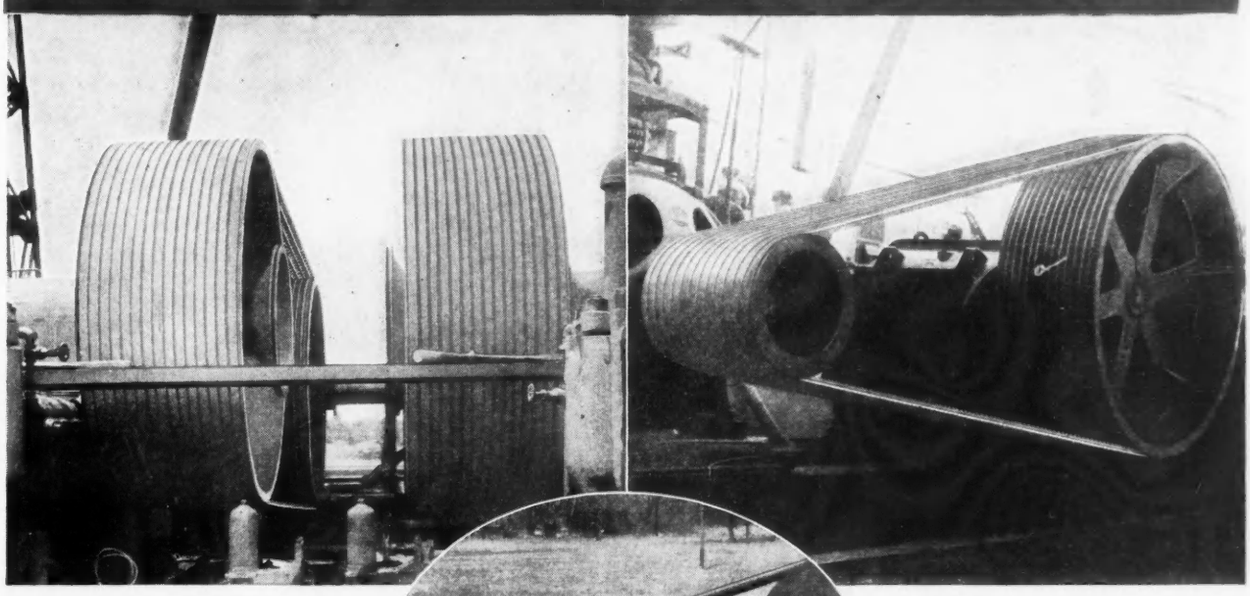

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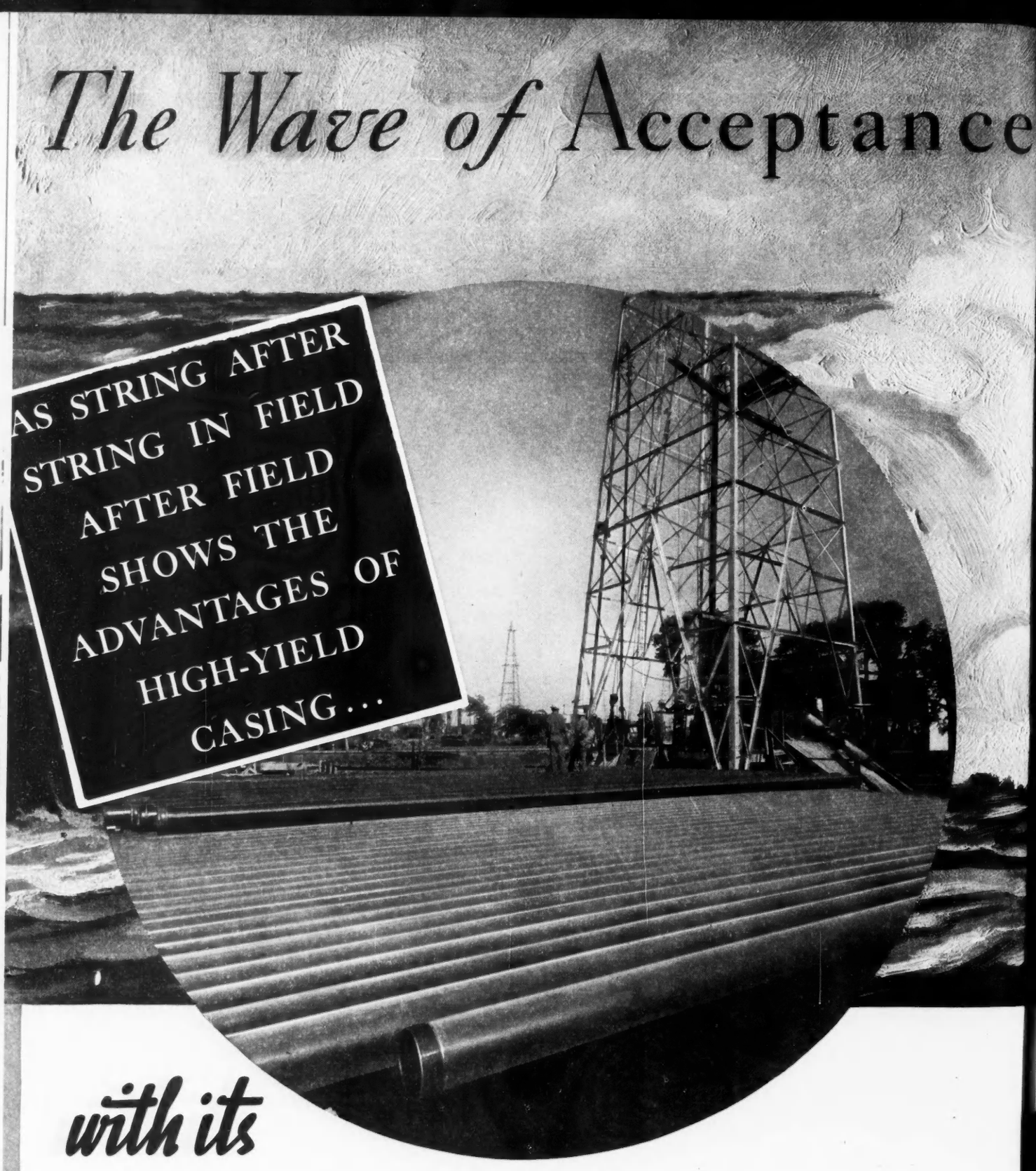

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Well spacing often assumes an unusual form, as shown by this scene at Elwood, California

neers in one section of the country are influenced by conditions existing in their own area, and any attempt at a blanket agreement always ends in failure.

The reasons for repeated failure to reach agreement are not difficult to understand, when all factors are considered. The sharp variance in formation conditions, ownership provisions, and economic factors influence operators in their well spacing programs. All the principal operators agree that proper spacing of wells is one of the most vital factors in the development of any oil field, but the wide difference in opinion as to what constitutes a proper spacing program has prevented profitable operations in many promising fields. Evidence of both over-drilling and under-drilling may be found in United States fields, but by far the larger number of fields seems to have been over-drilled.

Until recently engineers almost unanimously agreed with the theory that ultimate recovery of oil in a field increases as the number of wells increases. A new school of thought opposes the old high density theory and contends that wider well spacing will yield greater ultimate recoveries from oil fields than would be obtained by very close spacing. The newer theory takes into consideration the necessity for producing the field at the most efficient rate, and suggests that the largest possible recovery from an oil field reservoir lies in making the most efficient use of the reservoir energy. This theory has won considerable support in fields that are producing with small individual well allowables, and where the producing zone is uniform and comparatively flat it has been possible to present good evidence supporting the theory.

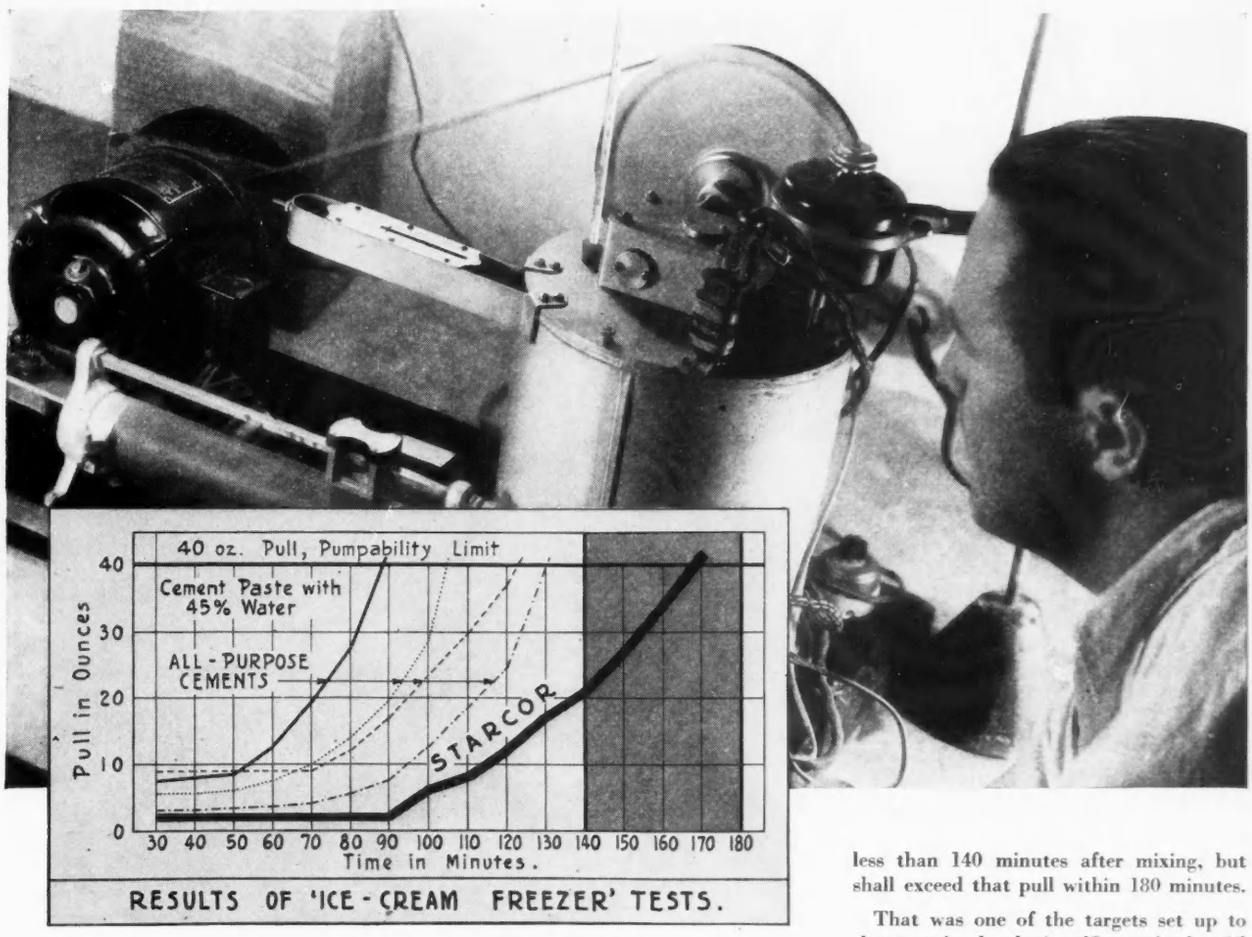
Many Formula Attempts

Many attempts have been made to establish a formula for spacing wells in any field, but so many unknown factors exist that the problem must not be regarded as one involving only mathematics. Cutler, in a United States Bureau of Mines bulletin, stated that the ultimate production for wells of equal size in the same pool, where there is interference, seems approximately to vary directly as the square roots of the areas drained by the wells. This means that the recovery from wells of equal size producing under similar conditions in the same pool is proportional to the average distance that the oil moves to get into the well. From this rule it would follow that where interference exists between wells, doubling the distance between wells doubles the ultimate production per well and halves the ultimate recovery per acre. In a more simplified form, Cutler's theory holds that the drilling of 100 wells on a given area ultimately will produce twice as much oil as 25 wells would produce. In arriving at this conclusion, Cutler stated that no production records were available for very closely spaced wells, and he could not say that the same relation was applicable to such wells. His conclusions were principally based on operations in fields that had been more or less conservatively developed.

Curtailment and the conservation of reservoir energy have given a new significance to well spacing. It is obvious that the well density in any field becomes too high when the well allowable will not permit operation at a profit. In holding a fiield to a fairly constant blanket allowable, any increase in the number of wells only reduces the allowable of each well. If it were possible to drill one well on each acre in the East Texas field and hold the output to the present level, the average well allowable would be less than 3½ barrels per day. Such a number of wells would not be practical, even at the reward of obtaining a greater ultimate recovery of oil.

Proponents of the wide spacing theory claim primarily that wide spacing of wells within reasonable limits gives a greater ultimate recovery of oil than a very close spacing plan. Correct production practices that give an efficient use of the reservoir energy are a definite requirement in this type of field development, however, and during the past two years many engineers have been converted to the theory. It is also claimed, in support of the wide spacing program, that formation pressure control is very difficult with close spacing.

The discussion of well spacing factors and problems will be continued in a second installment to appear in an early issue.



RESULTS OF 'ICE-CREAM FREEZER' TESTS.

"ICE-CREAM FREEZER" TEST

PROVES 'STARCOR', THE OIL MAN'S CEMENT, SETS SLOWLY, HARDENS RAPIDLY

A LEADING Western Oil Company found how to tell in a laboratory just what a cement would do at the bottom of a well. A machine called a Viscosimeter (looks like an "Ice-Cream Freezer"—see above) does the trick by measuring the stiffening of cement slurry as it sets.

How "Freezer Test" Works

The tank has a heating unit and thermometer inserted in a water bath; within is a smaller vessel, mounted on a vertical axis, free to revolve, except for a connection with a spring balance. Any tendency for this vessel to turn is measured in ounces of pull on the scale. An agitator, like a "dasher," is rotated within the vessel by the electric motor.

A measured quantity of cement slurry is poured into the vessel and the dasher revolved, while temperature of the hot bath is maintained at the desired level. As the slurry stiffens, the pull on the spring balance increases. A pull is finally reached which represents the limit of pumpability under field conditions.

Rigid Specification

Based on long experience, this oil company developed a specification which says that, at a temperature of 140° F., the spring balance shall not attain a pull of 40 ounces in less than 140 minutes after mixing, but shall exceed that pull within 180 minutes.

That was one of the targets set up to shoot at in developing 'Starcor', the Oil Man's cement. It is one of the routine tests 'Starcor' has to pass—one of many tests which insure uniformly satisfactory results with 'Starcor', even in deep, hot holes.

Fits Like a Glove

Chart (above) shows how various cements perform under this test. Note that 'Starcor' doesn't begin to stiffen until well past the first hour; note, also, how exactly it meets requirements for maximum pull. This means slow setting, even in deep holes at high temperatures.

That's why 'Starcor' is called the Oil Man's cement. It sets slowly at high temperatures—pumps easily in a heavy slurry—stays gel-like to resist mud contamination—hardens quickly—resists sulphate-water action—assures a long-life shut-off. Use 'Starcor'* next time—it'll pay you well. Any Lone Star and 'Incor'* Dealer can supply you. Lone Star Cement Corporation, Dallas . . . Houston. *Reg. U. S. Pat. Off.

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Water Intrusion

By FRANK B. TAYLOR, Staff Writer

RESERVOIR characteristics along the northwest trend of production in Kansas have imposed certain specific limitations upon producing concerns, some of which have been partially met in the Hilger pool of Reno County and the Stoltenberg pool, Ellsworth County. In these two areas, which are representative of many other sectors producing along the trend, experiments are being made by swinging pumping equipment from the well head and lifting with the pump barrel at a relatively high position in the fluid column. At present this manner of producing has not had sufficient usage to allow an analytical breakdown applicable to each phase of the problems encountered. In some important respects production improvements are apparent and operators interested in Kansas fields are following the initial work with interest.

Production along the BartonEllsworth Arch of

Production along the Barton-Ellsworth Arch of are usually lime, with scattered occurrences of Gorham and Reagan sand strata. The more important lime members that are generally productive are the Siliceous, Kansas City and Viola, and in wells to these horizons the fluid level is usually high, due to hydrostatic pressure. Depths vary from an average minimum of 3,100 to 4,700 feet as an average maximum. Structures are low in arc and are either of small circumference or are elongated.

Gas Caps Are Small

It is peculiar that proved areas along this trend do not contain even a very small gas cap in the mentioned limes. Amplifying this condition, production is seldom accompanied by dissolved gas in volumes sufficient to exert an appreciable influence in lifting fluid. A large majority of wells will not flow naturally even where situated favorably on the structure, and few fields so far developed could be classed as flowing, with Hauschild and Bemis pools being the most notable of certain exceptions. This limitation leaves only hydrostatic pressure as an active lifting agent and this energy may be somewhat reduced as fluid is withdrawn from wells in the immediate area.

Water within producing limes is to be expected. Irregular pumping schedules are conducive to irregular water encroachment whereas a uniform pumping schedule, with constant backpressure, insures against premature and uneven water encroachment. Present work is an advancement in this respect that could be applied with equal advantage in areas other than Kansas.

Expect Greater Ultimate

With increases of water in relation to the produced oil, other factors enter into the problem; that of the per barrel cost of lifting fluid, and at times, the disposal of brine. With an increased application of the manner of lifting being applied in the two fields, increased economy in lifting costs will make production profitable over a greater period of time and will thereby increase ultimate recovery from individual wells and the field. There is no present means on which to base an estimate of probable increased ultimate recovery. By placing the working barrel at a relatively high position in the fluid column, wells have continued to make their allowable, and it is believed that where well production was less than minimum allowable, that any variation would be toward an increase in oil.

Hilger pool in southeastern Reno County was opened by Hilger 1, SE SE NW 16-26s-4w, in April, 1934 and is still undefined by drilled wells. The discovery well topped the Viola lime at 4060 feet and drilled to 4067 feet to obtain an initial of 968 barrels of 38 gravity crude. The pool now has 26 producing wells with those near the center of the structure flowing naturally under a hydrostatic head. Very little gas is being produced with the oil, not more than is required for lease operation.

On one location near the south edge of Hilger pool, a well has been producing with a high working barrel for the past ten months. Various depths have been tried with results checked careully. The highest level at which the pump has been placed is at the 1000-foot marker, with other settings at greater depths. The well is being produced 24 hours per day, with present oil being about 12 barrels and water about 560 barrels.

The lime wells being considered sustain a continuous increase in water produced with oil. This increase is irregular and variable with individual well or field. After water has become 50 percent or more of the total fluid produced, the tendency is for the water to increase quite rapidly. Although the oil is declining, the decline is more gradual than is the increase in water. This change in ratio imposes a

higher per barrel of oil production cost as more fluid must be lifted. Comparison of past and present water-oil ratios can not be made because of a constantly changing ratio which is still increasing at a retarded rate.

Little difference in oil production has been noticed with changes in the levels of the pump. Production of oil and water remained nearly the same, but proved the desirability of placing the barrel at some point well above the bottom of the hole. Casing head gas pressure remained between 120-140 pounds. Different type of working barrels were tried with no noticable change in production. Rod difficulties and failures, an important item, were reduced to a minimum effecting an increase in economic operation.

Stoltenberg pool of western Ellsworth County was opened in June, 1931, when Stoltenberg 1, C SW 22-16s-10w, found production in Siliceous lime from 3332 to 3348 feet, total depth. Four major companies have 16 producing wells on the defined 340 acres of production, and five wells have pump barrels located between 1600 and 2000 feet. Half of the wells have been acidized and a few have been plugged due to water encroachment. There is not sufficient gas with the oil to run lease equipment and oil is being used as fuel in pumping units. No wells are flowing. Present fluid level in the wells is about 1000 feet from the surface.

Two and one half to three-inch tubing is general equipment in all wells. On wells being pumped from a high level, the tubing is swinging in the hole with pump barrel, adapter and collar connected in the regular manner. Seven eighths inch rods are being used on these wells.

Tests made in this field have shown conclusively that swift pumping results in an increase in water content of recovered fluid. One check indicated an increase of 10 percent. With the pump barrel high in the hole, a definite decrease in rate of water percentage increase was noticed. The wells are being pumped five to seven days per week, 24 hours per day, depending upon the allowable and the individual well. As the object has been to make the allowable per day equal to the 24 hour oil production, the stroke has been varied to satisfy, as nearly as practicable, the individual conditions. A constant flow into the well penetration of the lime reduces and holds fairly uniform the differential pressure during production. This undoubtedly aids in maintaining a more uniform water level. Another factor involved when the working barrel is near the top of the fluid column, is that the reactions of the pump unit are damped within the column itself, and are not transmitted with full intensity to the producing horizon.

Aside from the value of constant pumping as a means of retarding water progression into the producing area because of the greater fluidity of water, operators at Stoltenberg are dealing with sulphur water which has been directly influential in increasing rod jobs. With a minimum of tubing and rods in the hole and lighter lifting loads, operators have materially decreased the per barrel lifting costs.

The Stoltenberg field of Ellsworth County, Kansas, was discovered in 1931. All producing wells are on the pump, with the best making from 24 to 26 percent sulphur water. Certain pumping practices have aided lifting costs.

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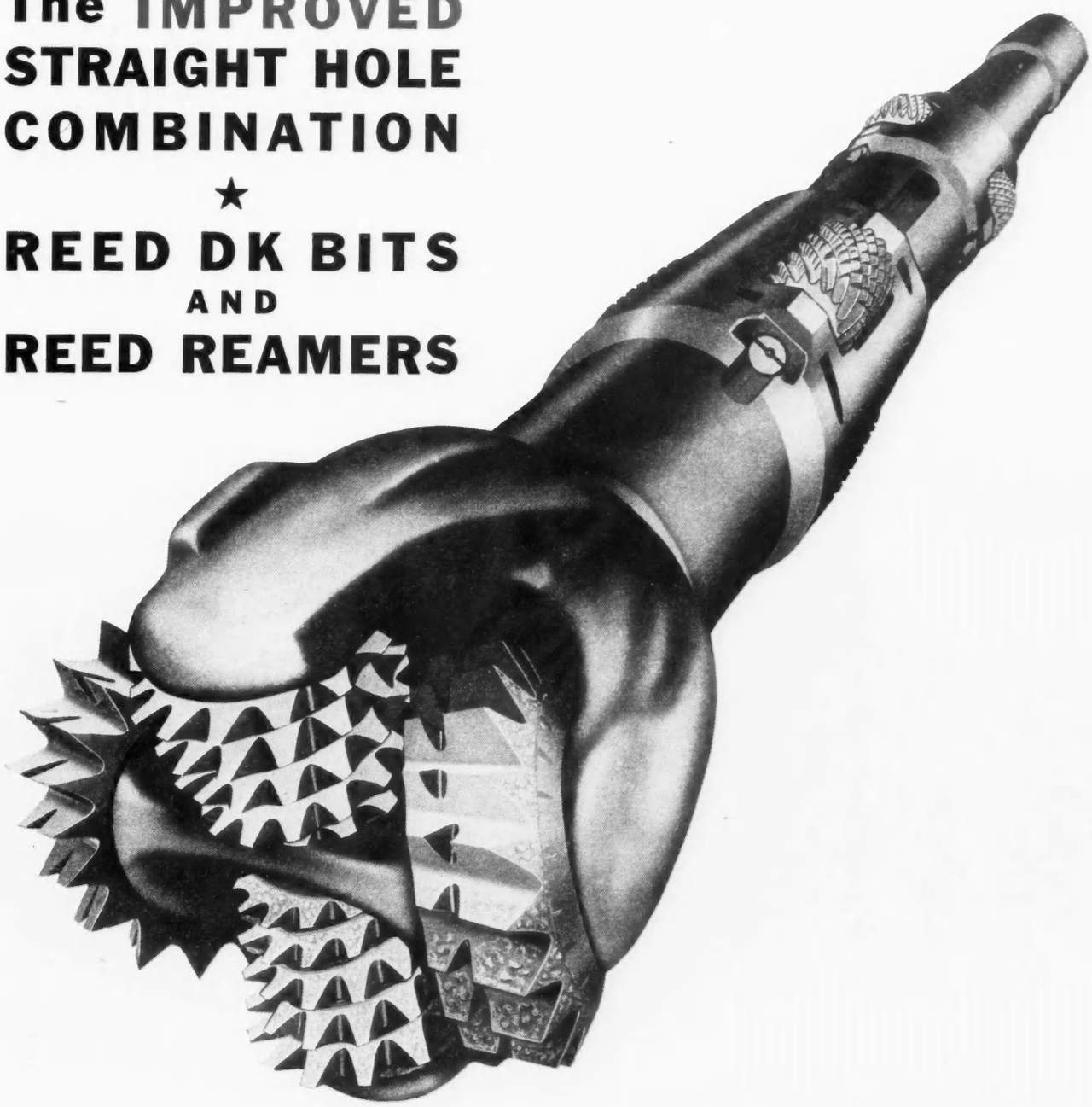

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New Portability in Seismic Instruments

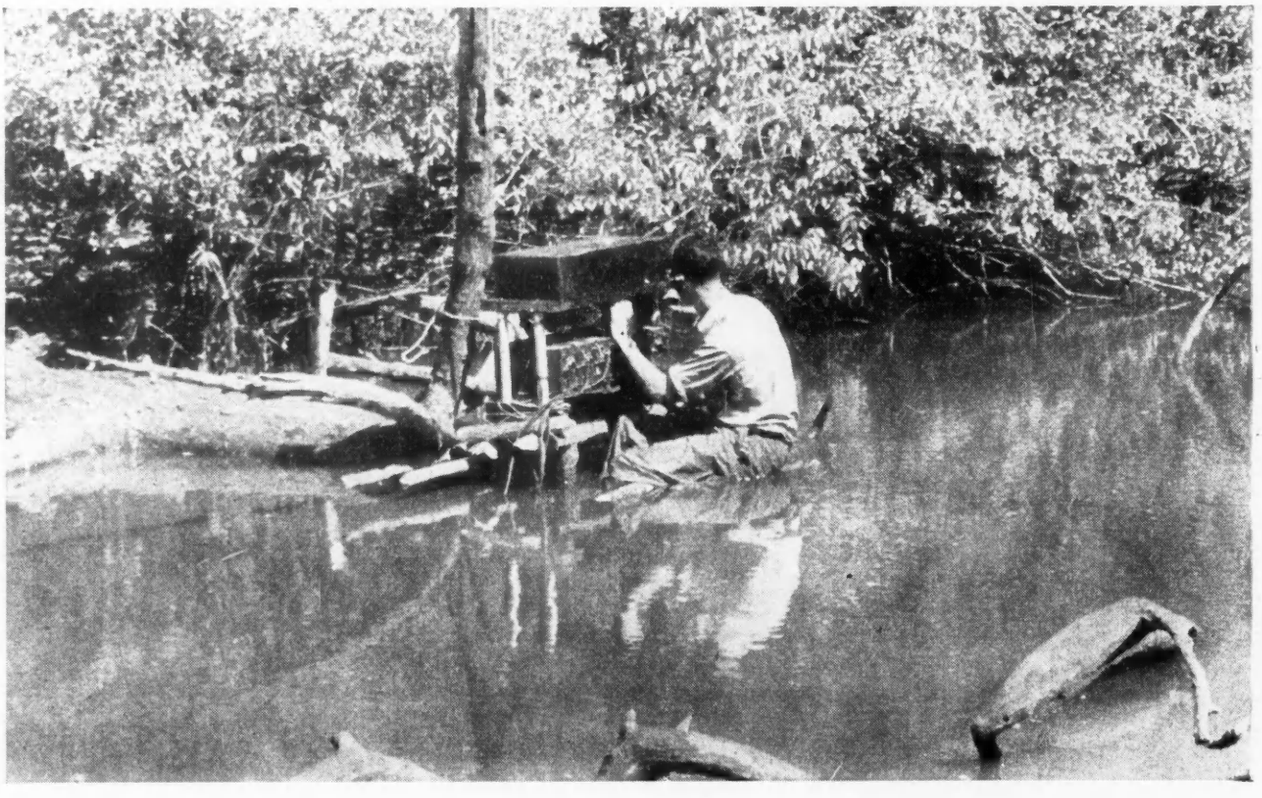
THROWS OPEN IMPORTANT GULF COAST AREAS HERETOFORE LARGELY UNEXPLORED

AREAS in the Texas-Louisiana Gulf Coast that have remained inaccessible to reflection seismograph work because of timbered swamps, dense thickets and marshy lakes, which collectively cover a large portion of the territory on the best trends, today are being prospected successfully as a result of another recent advancement in equipment. A new portable oscillograph (reflection seismograph) has been in successful operation three months. Because of its light weight (less than 100 pounds) it is enabling operators to penetrate such regions in search of oil structures. The instrument is one of the smallest, if not actually the smallest, ever used in geophysical exploration for oil.

It is claimed that this light weight has been obtained without the least sacrifice in any feature possessed by the old style large outfits. The party using the equipment operates just as any other party when good roads are available on land shooting, with the instruments mounted on light trucks. When a swamp or thicket is encountered, the instruments are detached from their truck mountings in 15 minutes, and easily transported on foot by four men into the desired location. If after the record is obtained, it is in order to move back into the truck at once, only 20 minutes are required to re-mount all instruments in working order and move on. With similar ease and dispatch operations are changed to and from boats or rafts when occasion arises.

The past five years have seen an almost unbelievable increase in reflection seismograph operations on the Gulf Coast. Up to about 1932 it was largely major oil comjanies who carried on this work, and it soon became their principal means of finding oil. Their almost phenomenal success was apparent to all, and no great time elapsed until even prudent

The new portable seismic instrument being used in a marshy, densely grown area. It is in such region that it is particularly adaptable.



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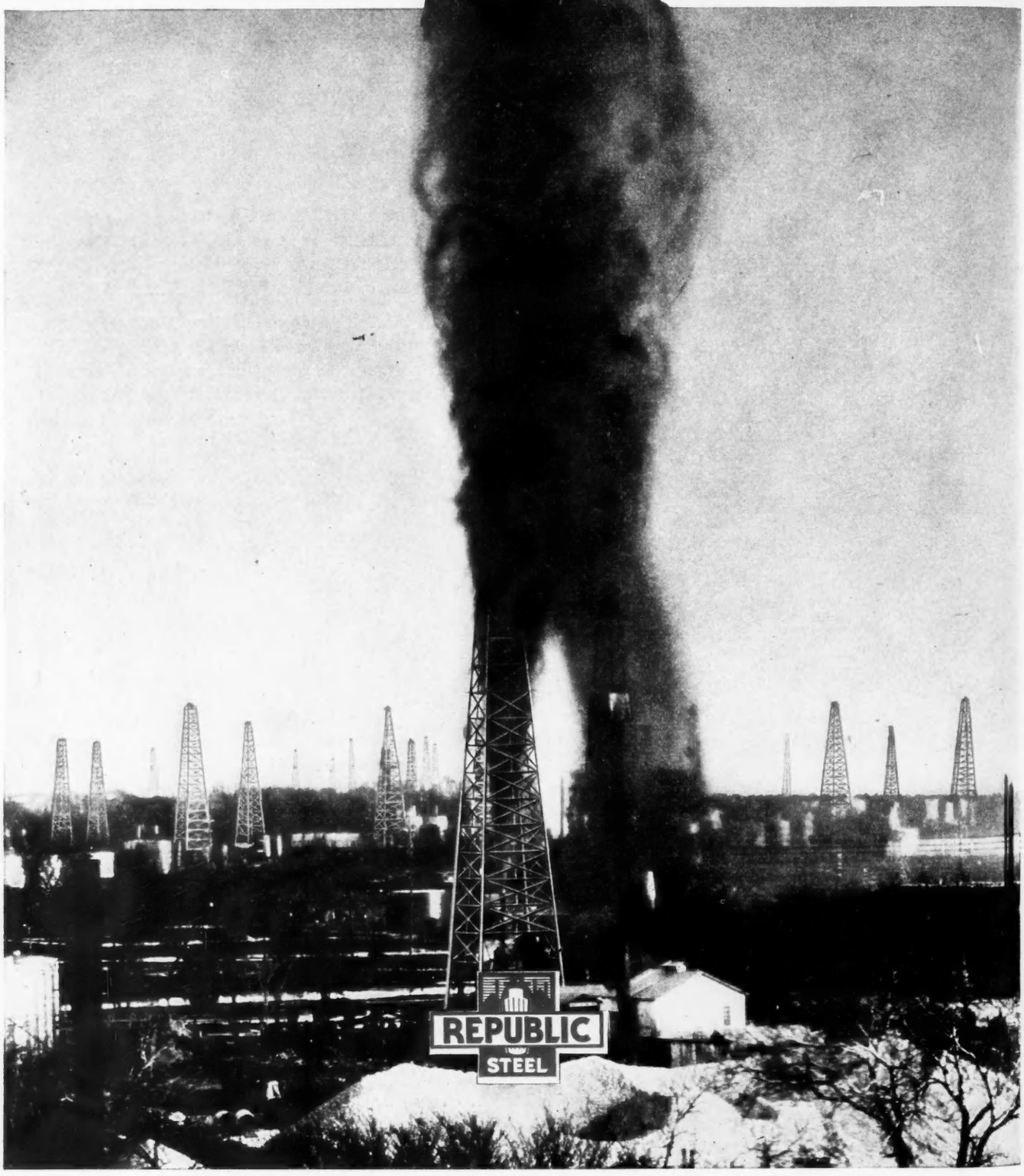

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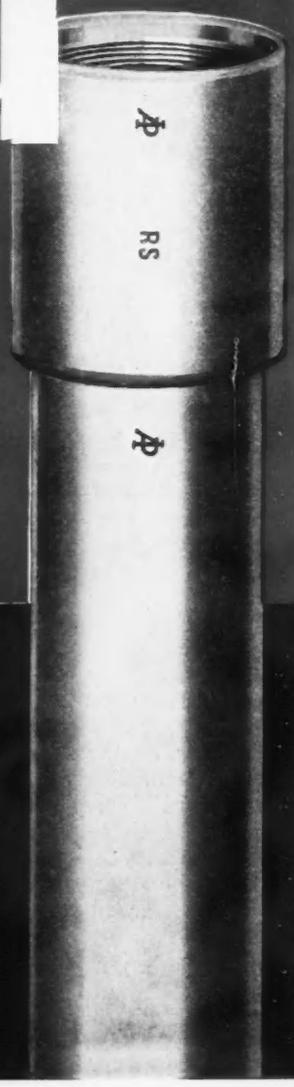

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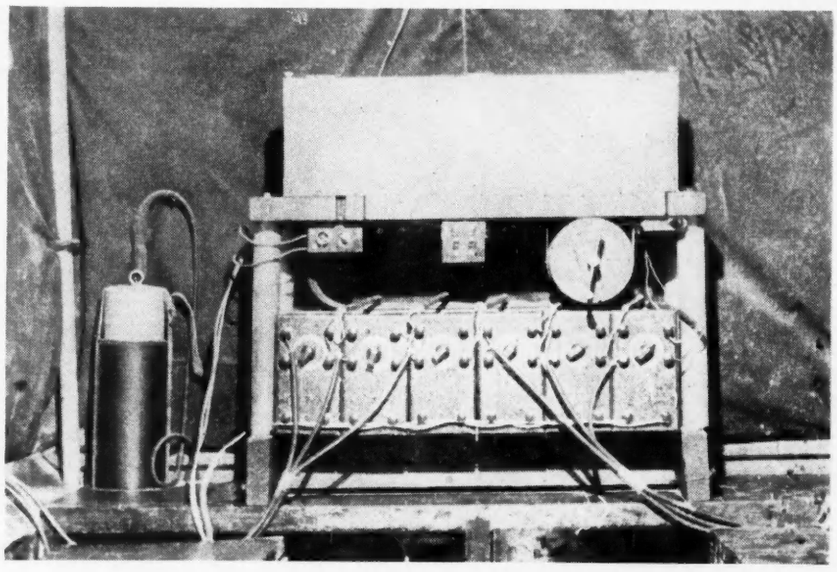

The unit as it appears when set up in a truck for moving to another locality.
(Photograph by Hoard Exploration Co.)

individuals and independent operators learned the wisdom of spending a part of his good cash with a responsible reflection seismograph company. Today reflection seismograph crews have increased several hundred percent in number. The average number of crews operating through 1932 was ten; 1933, thirty-one; 1934, forty-two; 1935, fifty-four; and there are at present sixty-six reflection parties on the Gulf Coast proper. Similar increase in seismic activity is the case everywhere. All available crews are busy to capacity and are likely to continue so, and dependence on the seismograph for oil exploration by major company and independent operator alike is greater than ever before.

Yet instruments and equipment show relatively little change over the five year period. Then, as now, the typical reflection outfit consisted of an oscillograph and six to eight amplifiers to which are connected by properly shielded cables an equal number of detectors or geophones. A photographic camera with galvanometers and tuning fork, also batteries, developing box, earphones, and other small auxiliary equipment are essential adjuncts. The geophones pick up the sound waves reflected back up to them from the earth below, convert these mechanical vibrations into electrical impulses that are amplified and recorded by multiple galvanometers on rapidly travelling photographic paper; simultaneously recorded along this paper are lines representing time intervals usually of one one-hundredth of a second, drawn by the tuning fork. The photographic record is universally developed and inspected on location.

Of many new circuits, hook-ups, "filters" and spreads which have been tried some have become popular; a few have achieved general and permanent adoption, but many have later been discarded. Some companies are now using, for instance, as many as 32 geophones instead of eight, in varying spreads and circuit. Technique in determination of correction for the weathered zone has improved; shielding of cables and equipment has overcome much of the difficulty formerly caused by induction from power lines, etc.; cameras have been perfected so that records are cleaner and sharper. The net result of all this, however, on the reliability of records produced has been small. Records shot five years ago by good crews still carry their old weight. Through all this period there has been little tendency on the part of most designers to reduce the size and weight of equipment; on the other hand an apparent tendency to increased weight has been evident among some.

To many people, including at least a couple of the seismograph companies, it has been apparent that a good deal of the Gulf Coast has had a pretty thorough "working over." Accessibility counted high in the first years of reflection seismic exploration and the shooting was almost all done on dry land from good roads. Within the last year and a half, shooting on open water has increased markedly, and has been found not only cheap and fast but also productive generally of excellent records. As a result most of the open water areas are now under lease and are being shot. This selective process has left large areas of the more dificult Gulf Coast terrain, the swamp and thicket and marsh, entirely or virtually unworked to date. If it can be shot, much of this acreage is recognized as just as potent as any general territory on the Gulf Coast ever was, as far as its oil possibilities are concerned. The instruments described herewith were evolved with this problem in mind, knowing that such instruments would be necessary to shoot such terrain in a thorough manner at reasonable cost.

On the set of instruments referred to a small battery of motorcycle size is used for the amplifiers, which are 3x6x12 inches in size. The six geophones weigh a pound and a half each and are about the size of a small tomato can. The various parts are assembled as two units. The first is composed of the oscillograph and the six amplifiers, weighing about 70 pounds and is about 24x24x12 inches in size. The other unit consists of the geophones and their cables, batteries, developing box and other small equipment, and with litter weighs about 50 pounds.

Four men are assigned to transport the instruments in its portable state, two to each unit. The first (or recording) unit is strapped to two poles and shouldered by two of the men. The other two men carry the geophones unit handily as a light litter.

In practice one of these four men is the recorder or observer, two are helpers and the other is a junior observer.

It would seem that such a crew as here described must be able to show a very favorable cost sheet no matter what kind of terrain it is operating on, when stacked up against one of those crews with 16 to 25 men and 10 or 12 separate automotive units. Cost of any crew may be figured by the day or by the month, or, as the far sighted operator will foot up the cost, by the usable record secured, or profile shot.

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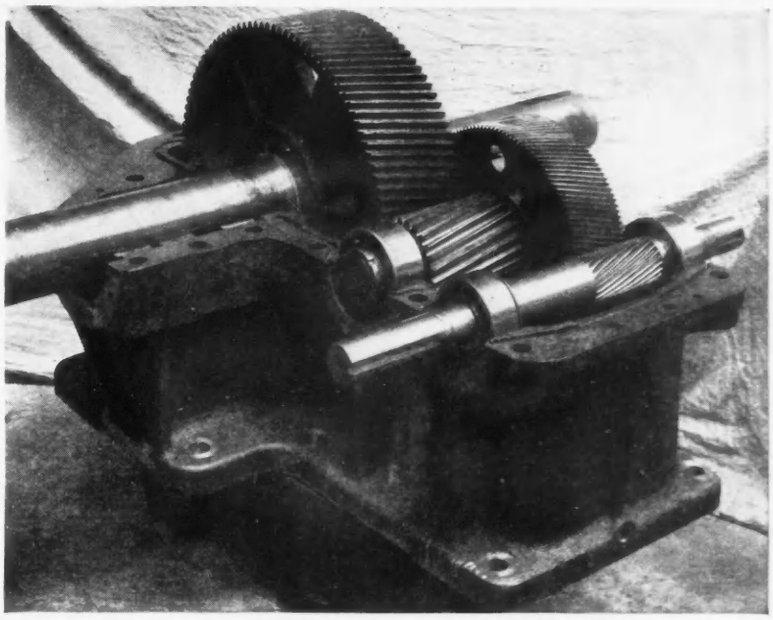

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In addition, SKF take radial and thrust loads caused by the operation of helical gears, never need adjustments, require only infrequent lubrication, and show very little wear throughout a long life. All these factors promote the confidence and economies that oil operators . . . production engineers . . . and YOU . . . should look for in bearings.

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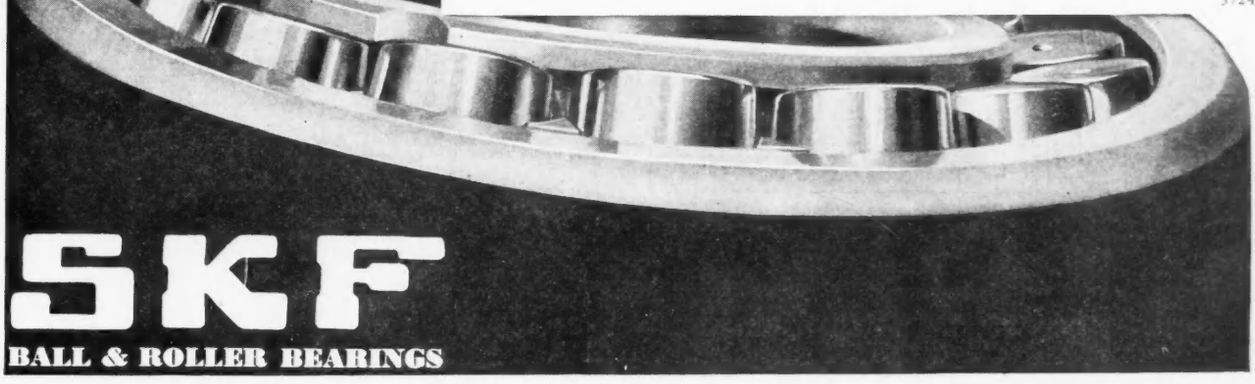


SKF
BALL & ROLLER BEARINGS

Petrographic and Physical Characteristics

OF SANDS FROM SEVEN GULF COAST PRODUCING HORIZONS

By M. T. HALBOUTY,
Chief Geologist and Petroleum Engineer,
Glenn H. McCarthy, Inc., Houston, Texas

PART III
Texture Results

TO briefly understand the elements and factors concerning the texture of grains, it is well to summarize the sequences and classifications of the rocks from which the grains are derived. Rocks as a whole are classified under three categories, namely: 1. Sedimentary rocks which are made up from the fragments of *any* kind of rocks and which are chiefly characterized by

Histograms Illustrating Texture of *Upper MDv* Zone

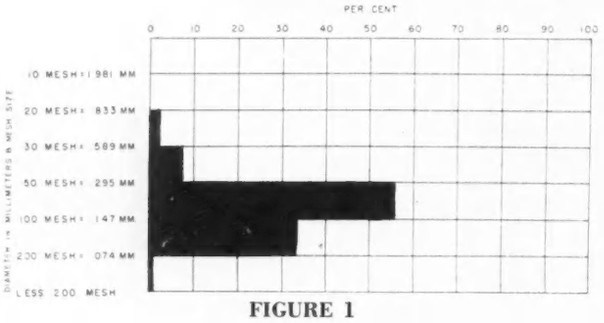


FIGURE 1

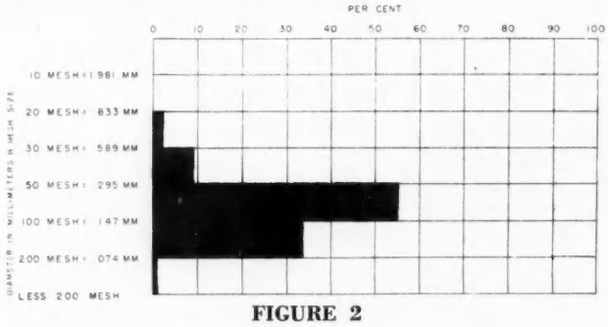


FIGURE 2

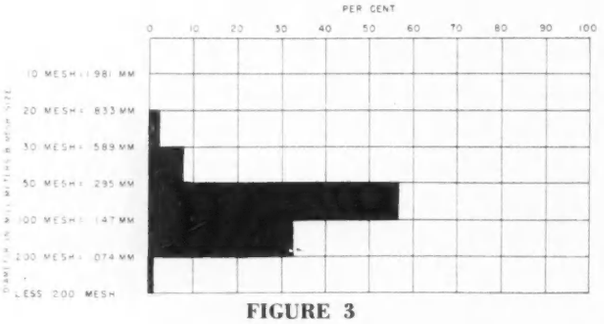


FIGURE 3

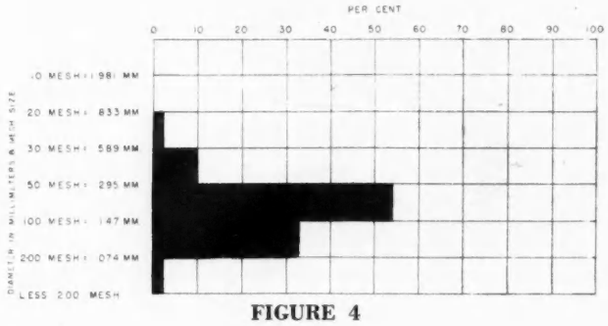


FIGURE 4

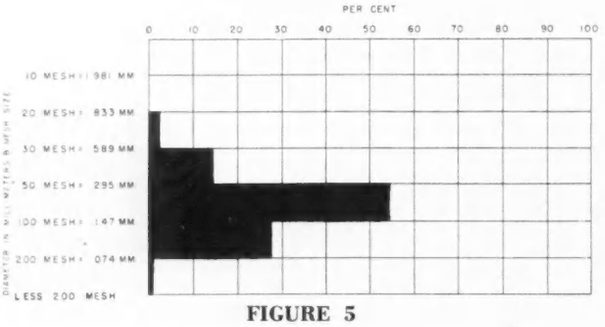


FIGURE 5

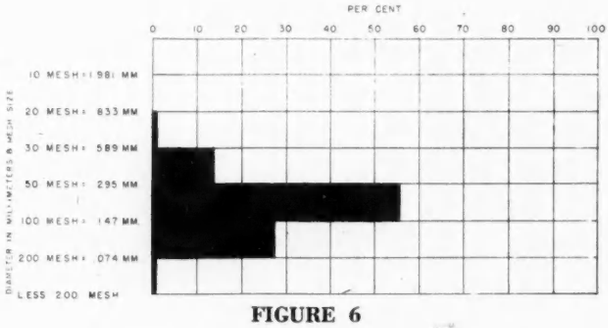


FIGURE 6

A STUDY of the petrographic and physical characteristics of sands in the Gulf Coast region of Texas and Louisiana conducted for the purpose of determining whether or not sands of certain geologic zones and formations may be distinguished as "that or this" zone by this means.

Part 1 appeared in THE OIL WEEKLY, November 23 and Part 2 November 30. Part 4 will be published next week.

their hardness, toughness and insolubility; 2. Igneous rocks which are in reality the rocks of the "beginning" and which are termed as rocks that were once fused and molten at high temperatures and pressures; 3. Metamorphic rocks which have undergone a change after they have been settled, i.e., reformation of either sedimentary or igneous rocks.

Metamorphic and igneous rocks are not to be dealt with herein; however, minerals which may be originated from igneous or metamorphic rocks sometimes become deposited in large quantities in sedimentary deposits and by studying the entire geological region, a direct trace of the minerals may be made from the original source bed. In order to detect such occurrences of foreign minerals to sedimentary rocks, environmental conditions must be taken in consideration based upon a physiographic basis. As the contents of this paper are to deal with only sedimentary sands and their particles, a resume of the various environments influential in sedimentary deposits is listed below:

A. Continental Environments[13]
   1. Terrestrial
      Desert
      Glacial
   2. Fluvial
      Piedmont
      Valley-flat
   3. Paludal (swamp)
   4. Lacustrine
   5. Cave (spelean)

B. Mixed Continental and Marine Environments
   1. Littoral
   2. Marginal lagoon

[13]W. H. Imenhofel, Op. Cit., page 784.

Histograms Illustrating Texture of *Lower MDv* Zone

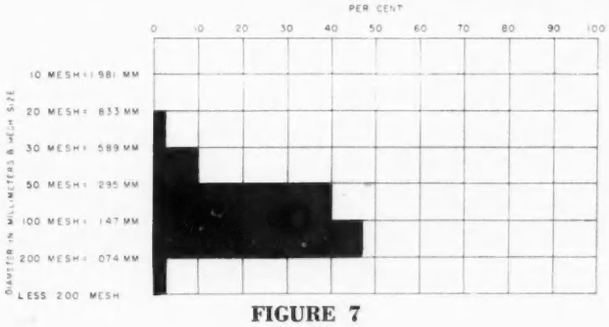
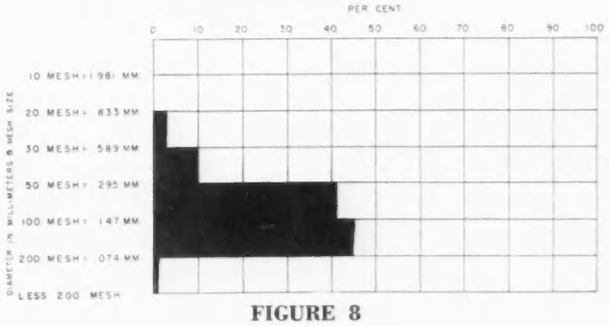

PER CENT
0 10 20 30 40 50 60 70 80 90 100
10 MESH = .1981 MM
20 MESH = .833 MM
30 MESH = .589 MM
50 MESH = .295 MM
100 MESH = .147 MM
200 MESH = .074 MM
LESS 200 MESH
DIAMETER IN MILLIMETERS & MESH SIZE

FIGURE 7


PER CENT
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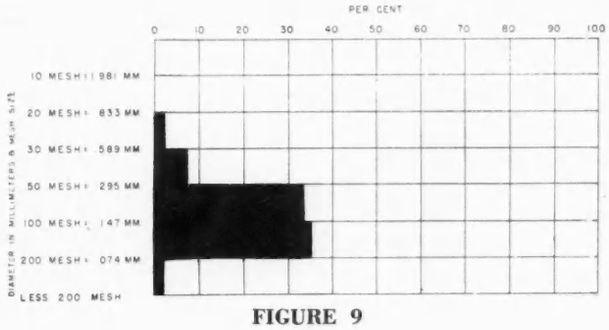
10 MESH = .1981 MM
20 MESH = .833 MM
30 MESH = .589 MM
50 MESH = .295 MM
100 MESH = .147 MM
200 MESH = .074 MM
LESS 200 MESH
DIAMETER IN MILLIMETERS & MESH SIZE

FIGURE 8


PER CENT
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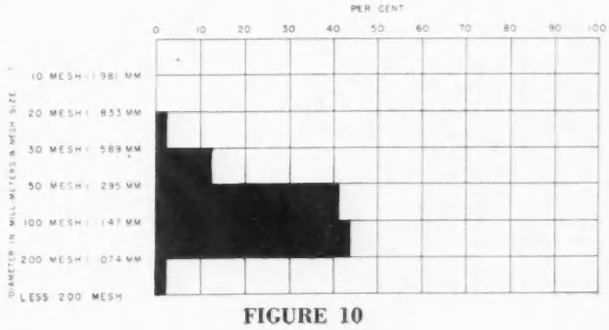
10 MESH = .1981 MM
20 MESH = .833 MM
30 MESH = .589 MM
50 MESH = .295 MM
100 MESH = .147 MM
200 MESH = .074 MM
LESS 200 MESH
DIAMETER IN MILLIMETERS & MESH SIZE

FIGURE 9


PER CENT
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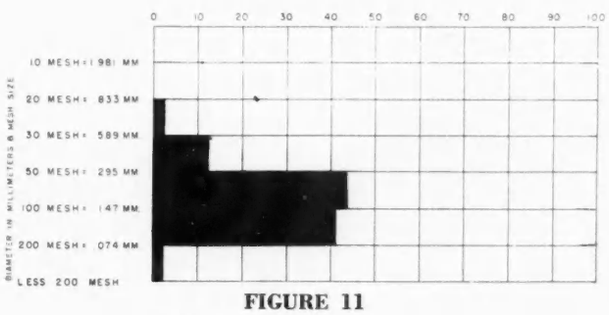
10 MESH = .1981 MM
20 MESH = .833 MM
30 MESH = .589 MM
50 MESH = .295 MM
100 MESH = .147 MM
200 MESH = .074 MM
LESS 200 MESH
DIAMETER IN MILLIMETERS & MESH SIZE

FIGURE 10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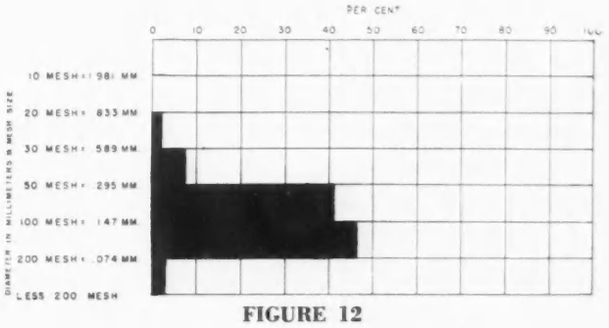
30 MESH = .589 MM
50 MESH = .295 MM
100 MESH = .147 MM
200 MESH = .074 MM
LESS 200 MESH
DIAMETER IN MILLIMETERS & MESH SIZE

FIGURE 11


PER CENT
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10 MESH = .1981 MM
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30 MESH = .589 MM
50 MESH = .295 MM
100 MESH = .147 MM
200 MESH = .074 MM
LESS 200 MESH
DIAMETER IN MILLIMETERS & MESH SIZE

FIGURE 12

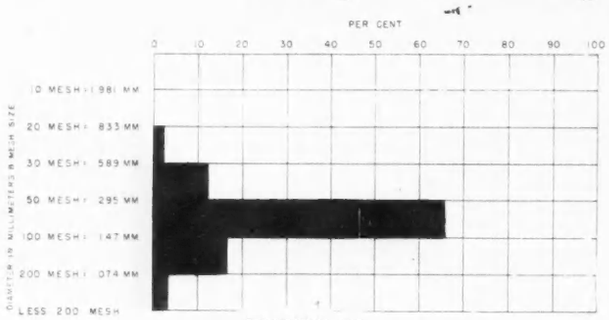
3. Estuarine
4. Delta

C. Marine Environments
1. Neritic or shallow water
2. Bathyal or intermediate depths
3. Abyssal or deep sea

Under continental environments the terrestrial deposits are those in which material is lain without an appreciable aid from water and the sediments range from minute particles to large (huge) boulders, and where the cementation varies from a loosely consolidated sand to massive, indurated quartzite. Striated particles are common in glacial deposits and the effects of strain on the grains can be clearly detected. Wind plays an important part in desert deposition and ice and water are the big moving and depositing agents in the glacial environment. Fluvial deposits have water (rivers and streams) as the chief agent of deposition where the deposits caused by the upper portions of the streams and rivers are piedmont, and those of the lower portions are the valley-flat deposits; the delta deposits are not included. The valley-flat deposits can be termed as those between the piedmont and the delta. Paludal deposits are the remains of animals and plants which fall into swamps and accumulate there with the rest of the bog. Lacustrine deposits are those which are formed in lake waters; and the cave deposits are those which are laid in caves.

The deposits of the mixed continental and marine environments are made where the continents and smaller land masses meet with the ocean. These deposits, according to the land and ocean contact, may be either littoral, marginal lagoon, estuary or delta. In the littoral deposits, the marine depositional factors are prominent and the sediments are derived from both the land and the sea, but the assorting and final deposition is conducted by the ocean waters. The marginal lagoon deposits are also contributed by the land and the sea and the range from fresh to highly saline waters plays an important part in the final characteristic of the material. The water in estuaries also changes with the tides from fresh to salt waters and as the sea and land also furnish material for deposition in these regions, so are the final depositional features of the material affected by the water changes. The delta deposits, however, are furnished by the land and deposited by fresh waters, and consist, dominantly, of the finest material, as the larger particles were deposited up-street because of their size

Histograms Illustrating Texture of *Discorbis* Zone


PER CENT
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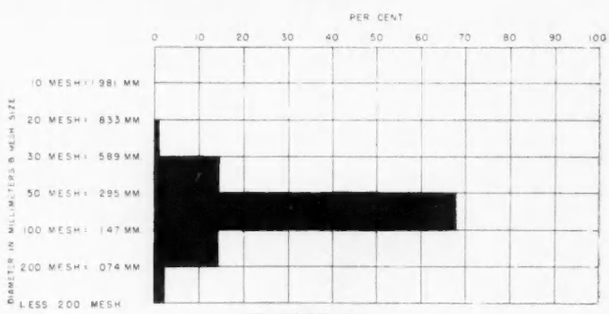
10 MESH: 1.981 MM
20 MESH: .833 MM
30 MESH: .589 MM
50 MESH: .295 MM
100 MESH: .147 MM
200 MESH: .074 MM
LESS 200 MESH
DIAMETER IN MILLIMETERS & MESH SIZE

FIGURE 13


PER CENT
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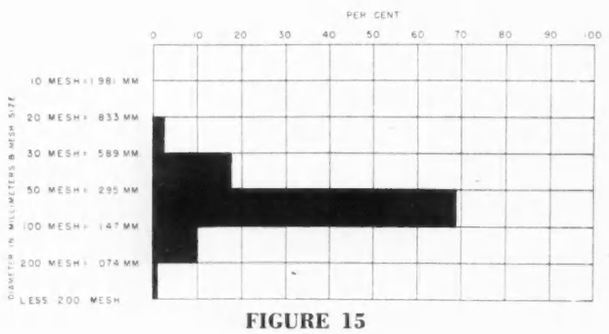
10 MESH: 1.981 MM
20 MESH: .833 MM
30 MESH: .589 MM
50 MESH: .295 MM
100 MESH: .147 MM
200 MESH: .074 MM
LESS 200 MESH
DIAMETER IN MILLIMETERS & MESH SIZE

FIGURE 14


PER CENT
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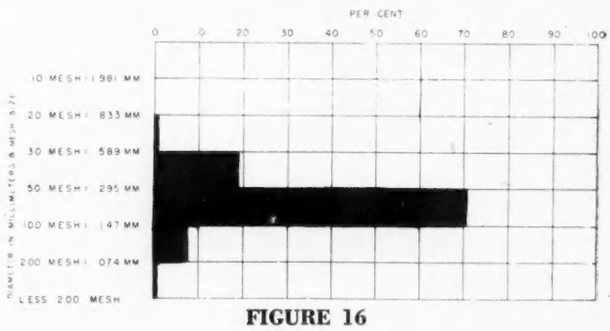
10 MESH: 1.981 MM
20 MESH: .833 MM
30 MESH: .589 MM
50 MESH: .295 MM
100 MESH: .147 MM
200 MESH: .074 MM
LESS 200 MESH
DIAMETER IN MILLIMETERS & MESH SIZE

FIGURE 15


PER CENT
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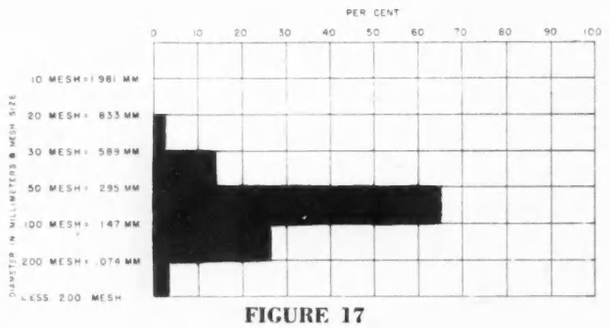
10 MESH: 1.981 MM
20 MESH: .833 MM
30 MESH: .589 MM
50 MESH: .295 MM
100 MESH: .147 MM
200 MESH: .074 MM
LESS 200 MESH
DIAMETER IN MILLIMETERS & MESH SIZE

FIGURE 16


PER CENT
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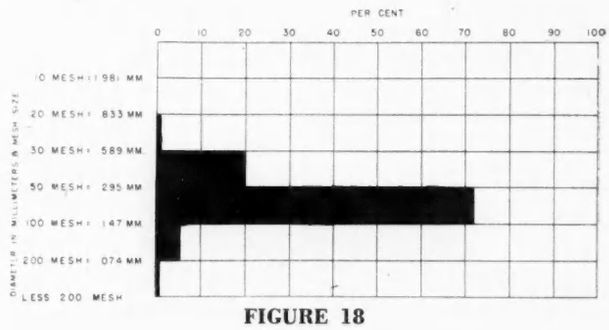
10 MESH: 1.981 MM
20 MESH: .833 MM
30 MESH: .589 MM
50 MESH: .295 MM
100 MESH: .147 MM
200 MESH: .074 MM
LESS 200 MESH
DIAMETER IN MILLIMETERS & MESH SIZE

FIGURE 17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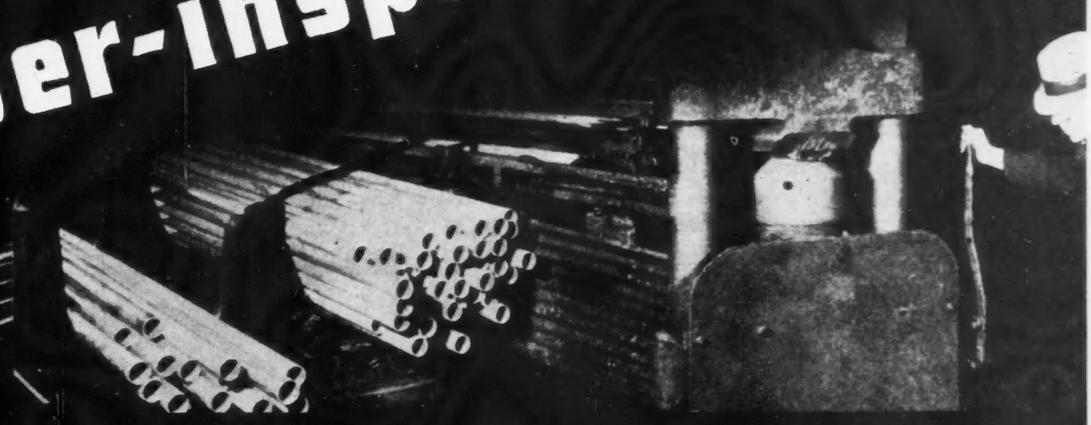
10 MESH: 1.981 MM
20 MESH: .833 MM
30 MESH: .589 MM
50 MESH: .295 MM
100 MESH: .147 MM
200 MESH: .074 MM
LESS 200 MESH
DIAMETER IN MILLIMETERS & MESH SIZE

FIGURE 18

youngstown's Super-inspection . .



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and greater weight than the smaller and fine-grained, floating particles.

The deposits of marine environments are strictly deposited in the oceanic waters. The deposits of the neritic environment are those deposited around the greater part of the so-called continental shelves in waters ranging from a depth of low-tide to 100 fathoms. The bathyal and abyssal deposits are limited to the greater depths and the deposits from each environment vary in character and physical properties.

In this paper the deposits of the marine environments and the mixed continental and marine environments are concerned with and the sands from these deposits outlined and segregated for study. In the continental environments, the lignite deposits of both the paludal and lacustrine deposits are also prominently encountered in many formations of the Gulf Coast.

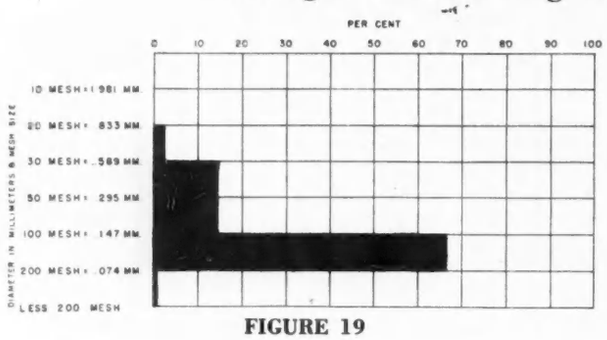
In each environmental condition the particles for deposition are affected in some textural manner and such changes are important in the final arrangement of the particles into definite horizons.

Such changes were noted in the sands from the Frio formation. This formation as a whole is considered to be an off-shore or littoral deposit and the texture of the grains are indicative of the environments pertaining to littoral or "off-shore" deposits. The large and prominent grain sizes and "salt and pepper" character of the sand relate a story of the deposition of the sands from this horizon—the large, round grains indicating long and rolling transportation and the "salt and pepper" character indicating magnetite, ilmenite and leucoxene minerals which are indicative of beach deposits and off-shore sand horizons. Such conclusions as the above can be ascertained and it is very likely that depositional factors caused the nature of the stratigraphic situation and such situations may be indicative af stratigraphic structures.

With this point of view in mind a description of the detritus of the land is given for relative correlative values.

There are various sizes of detritus of the land and each particular size is recognized as a separate kind of material. When the detritus is moved by running or fluctuating waters it becomes graded and sorted, according to the movements and strength of the current, into masses consisting approximately of equal-sized particles. In Gulf Coast drilling the largest of the material found, which are considered to be from the size of a small

Histograms Illustrating Texture of *Heterostegina* Zone


PER CENT
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DIAMETER IN MILLIMETERS & MESH SIZE
10 MESH=1.981 MM.
20 MESH=.833 MM.
30 MESH=.589 MM.
50 MESH=.295 MM.
100 MESH=.147 MM.
200 MESH=.074 MM.
LESS 200 MESH

FIGURE 19

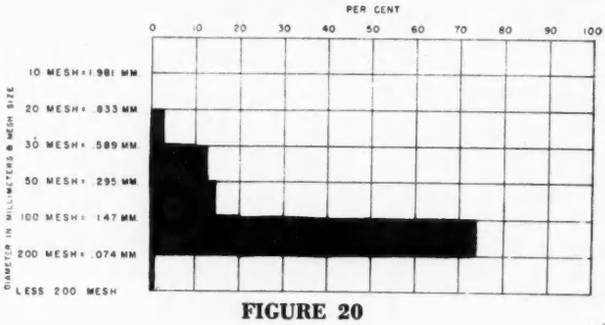

PER CENT
0 10 20 30 40 50 60 70 80 90 100
DIAMETER IN MILLIMETERS & MESH SIZE
10 MESH=1.981 MM.
20 MESH=.833 MM.
30 MESH=.589 MM.
50 MESH=.295 MM.
100 MESH=.147 MM.
200 MESH=.074 MM.
LESS 200 MESH

FIGURE 20

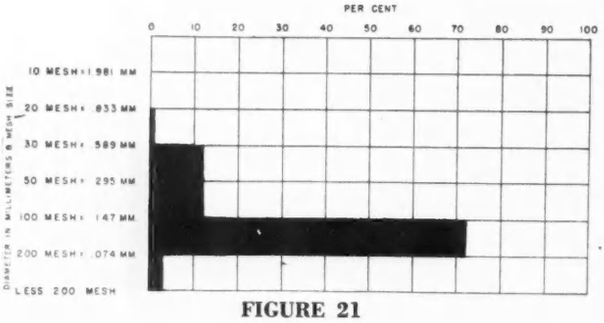

PER CENT
0 10 20 30 40 50 60 70 80 90 100
DIAMETER IN MILLIMETERS & MESH SIZE
10 MESH=1.981 MM.
20 MESH=.833 MM.
30 MESH=.589 MM.
50 MESH=.295 MM.
100 MESH=.147 MM.
200 MESH=.074 MM.
LESS 200 MESH

FIGURE 21

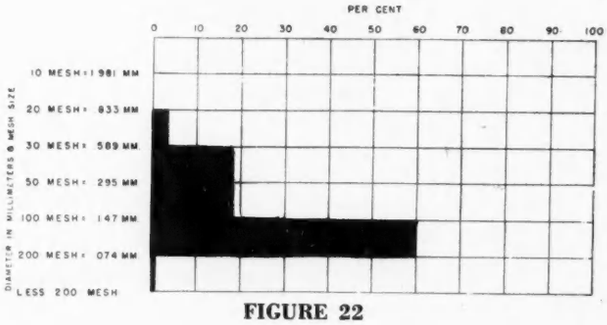

PER CENT
0 10 20 30 40 50 60 70 80 90 100
DIAMETER IN MILLIMETERS & MESH SIZE
10 MESH=1.981 MM.
20 MESH=.833 MM.
30 MESH=.589 MM.
50 MESH=.295 MM.
100 MESH=.147 MM.
200 MESH=.074 MM.
LESS 200 MESH

FIGURE 22

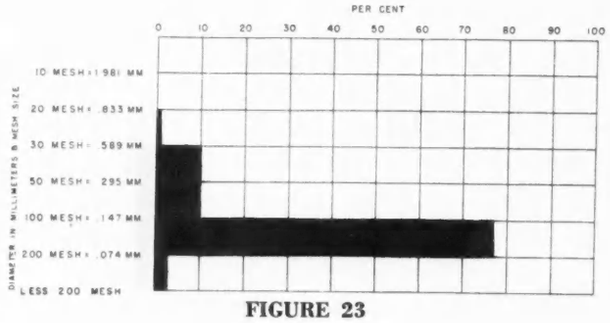
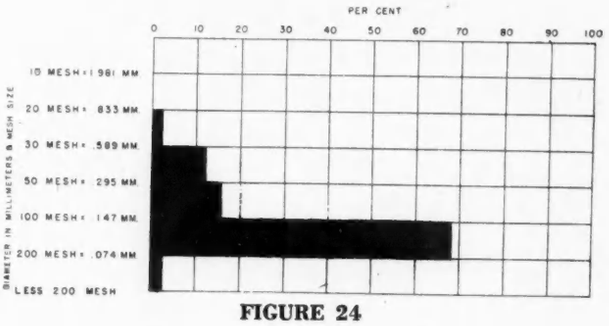

PER CENT
0 10 20 30 40 50 60 70 80 90 100
DIAMETER IN MILLIMETERS & MESH SIZE
10 MESH=1.981 MM.
20 MESH=.833 MM.
30 MESH=.589 MM.
50 MESH=.295 MM.
100 MESH=.147 MM.
200 MESH=.074 MM.
LESS 200 MESH

FIGURE 23


PER CENT
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DIAMETER IN MILLIMETERS & MESH SIZE
10 MESH=1.981 MM.
20 MESH=.833 MM.
30 MESH=.589 MM.
50 MESH=.295 MM.
100 MESH=.147 MM.
200 MESH=.074 MM.
LESS 200 MESH

FIGURE 24

NOT "Just another core drill"

Above, and at right below, are unretouched photographs of a small section of hard rock severed by the Dean catcher dogs. Note the clean cut through these tough cores.

but a *different* design that produces vastly better cores in the hardest, *toughest* formations

Most any equipment will get a core when conditions are *exactly right* for successful coring, but sometimes conditions are *exactly wrong*—and *then* many ace drillers pin their faith and dependence on the DEAN CORE DRILL. Because of exclusive advantages in design and construction, the Dean Core Drill gives the driller perfect control over coring operations at all times. He can open or close the core catcher by pump pressure at will. The drill cuts a clean core in all formations, and the catcher dogs will retain any core that can get into the core chamber.

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TABLE 3[11]

Name of Material	Diameter in Millimeters
Fine Gravel	2 —1
Coarse Sand	1 —0.5
Medium Sand	0.5 —0.25
Fine Sand	0.25 —0.1
Very Fine Sand	0.1 —0.05
Silt	0.05 —0.01
Fine Silt	0.01 —0.005
Clay	0.005—0.0001

[11] L. V. Pirsson and Adolph Knopf, "Rocks and Rock Minerals," Second Editions, 1926, p. 287.

melon up, are known as *boulders.* These boulders are prominent in the upper formations, however, are also scattered in the lower ones. The material smaller than boulders and larger than china-berries is termed as *gravel,* and also is found prominently in the upper formations and sometimes is associated with boulders. The particles of material smaller than china-berries or peas which form a non-cohering mass when wet with water are known as *sand.* This material may vary from extra fine-grained particles to coarse-grained and the variation is termed as either *fine, medium,* or *coarse* grained sand. The grade of material finer than sand and which can easily be transported by the winds is known as ***dust,*** however, the material which we are interested in is the sand particles and their variations in sizes.

In order to obtain a clearer conception of sand grain sizes, a resume of sizes of detritus material is listed in Table 3.

Table 3 is based on the classification of the mechanically formed sedimentary rocks. Gulf Coast sands are strictly quartz sands, and the effects of deposition on these sands are reflected not only in the grain sizes but in the shapes as well. Sands as cored or encountered in Gulf Coast drilling are termed by the operator by the macroscopic determination and usually on the drilling site. A report from the field would generally read as "a fine grained or coarse grained sand," little or no inference being made as to the variation between these two grain sizes.

Roughly estimating the sizes of particles by the eye immediately classifies it to the interpreter, however, the sand particles vary in so many sizes that one cannot speak of a "sand body" and really describe it without referring to the sizes of the grains in the sand. That is, a sand body could be classified easily as a "coarse" grained

Histograms Illustrating Texture of *Marginulina* Zone

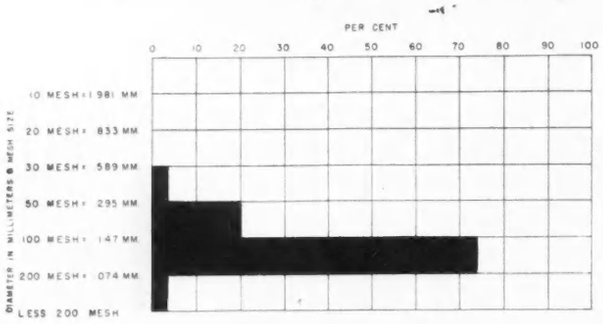


FIGURE 25

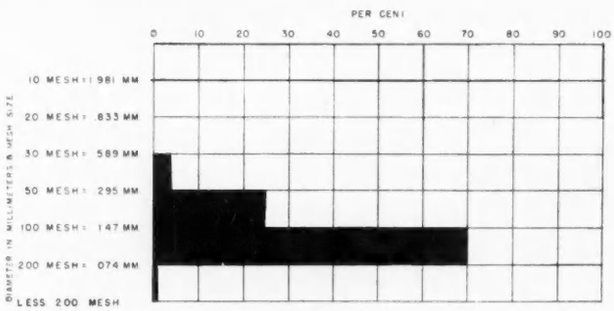


FIGURE 26

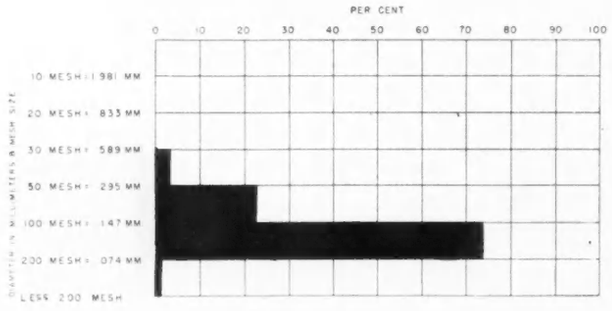


FIGURE 27

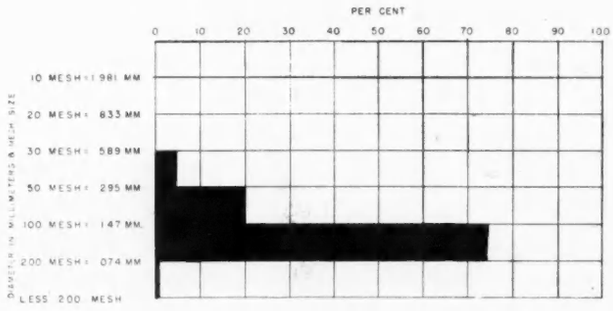


FIGURE 28

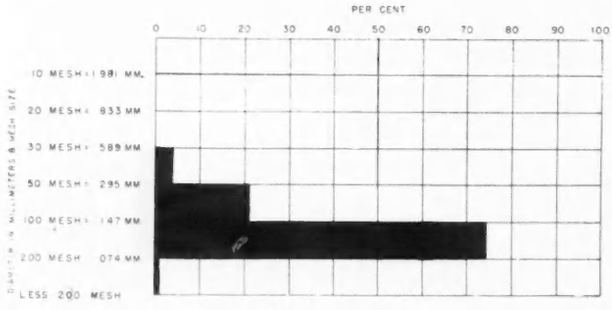


FIGURE 29

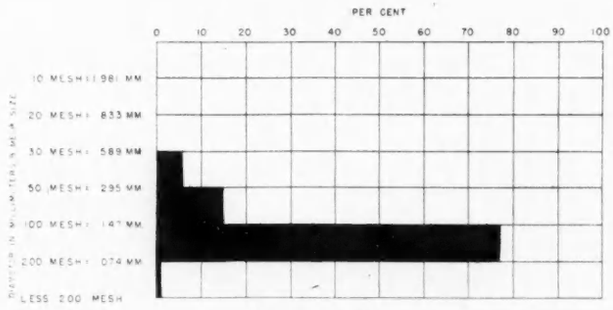


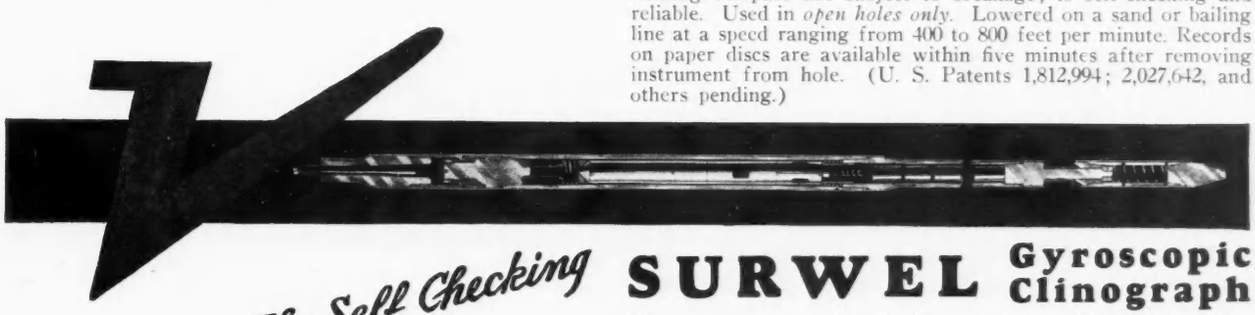
FIGURE 30

CHECK THE ADVANTAGES of all 3 of these SELF-CHECKING WELL SURVEYING INSTRUMENTS

The Self Checking

H-K Clinograph

Records in *single readings*, accurately and automatically by photography, both the amount and the direction of inclination. Uses floating compass not subject to breakage; is self-checking and reliable. Used in *open holes only*. Lowered on a sand or bailing line at a speed ranging from 400 to 800 feet per minute. Records on paper discs are available within five minutes after removing instrument from hole. (U. S. Patents 1,812,994; 2,027,642, and others pending.)



The Self Checking

SURWEL Gyroscopic Clinograph

The most accurate and reliable method ever devised for making underground surveys of bore holes, providing a true map of the course of the well at all depths, prepared from actual photographic records. Not affected by *Tortuosity* nor by *Magnetic influence* nor *human errors* when recording. Self-checking, makes two surveys in one round trip, one going in and one coming out. Speedy operation, requires less rig time than any other instrument. (U. S. Patents 1,124,068; 1,812,994; 1,898,473, 1,959,141; 1,960,038; 2,006,556; 2,012,138; 2,012,152; 2,012,455; 2,012,456, and others pending.)

The Self Checking

SYFO Clinograph

Records accurately on paper directly readable, the vertical deviation of a bore hole without the use of dangerous acids. Is speedy, self-checking, simple to operate and inexpensive. Can be used on a wire line or as a "Go-Devil" running inside the drill stem or on sand or bailing line in open hole. (U. S. Patents 1,962,634; 2,013,875, and others pending.)

SPERRY-SUN WELL SURVEYING COMPANY

1608 Walnut Street, Philadelphia, Pa.

TULSA, OKLAHOMA
425 Petroleum Building

HOUSTON, TEXAS
3118 Blodgett Avenue

LONG BEACH, CALIF.
549 E. Bixby Rd., (3800 Block—Atlantic Ave.)

sand or a "fine" grained sand, as the sizes of the particles are extremely important to the observer, especially in the oil fraternity. Sizes of the grains relate variations of porosity, permeability, and possibly saturation of the sand, and especial care should be exercised in maintaining such a description. That is why a study of texture of sand grains is important, not only for a study of correlation purposes, but for a complete study of other physical properties which may be related or influenced directly by the grain sizes.

Field men have an idea that the size of the grains determine the amount of porosity or pore space that the sand contains, but such a belief is erroneous. The size of the grains does not determine the amount of pore space. It has been proven and conceded that a fine grained sand may be as porous as a coarse gravel bed. Therefore, a study of the grain sizes in this paper were not made with an inference to porosity percentage of the sand. Porosity percentages were taken, nevertheless, for the relationship of permeability to porosity, which is mentioned later in this paper. The amount of pore space depends principally upon the assortment of the grains and the system of packing. The porosity of any sand is diminished if small grains are filled in the spaces between the large grains. This is mentioned because of controversies arising in the field.

The entire set of 315 samples were sieved and recorded in percentages of the grain sizes of each sample. As stated above, the samples were qually divided as far as the respective geologic ages were concerned, that is, seven horizons were represented and forty-five samples were used for each horizon. The samples from the *MDv* zone were divided into 22 for the upper part of the zone and 23 for the lower part of the zone.

After the results of the sieving were compiled for each horizon, six representative samples with their percentages were chosen from the total number of samples from each horizon. These six sets of percentages were plotted in charts known as histograms. Lack of space in this publication forbade the printing of 315 histograms, so the six that were chosen for each zone were fairly representative of the horizon. A total of 48 histograms were plotted—representing all the sand horizons studied.

The histograms illustrating the texture of the upper *MDv* zone are shown in Figures 1 to 6 inclusive. It is to be noted that in every case the largest percent of the grains are larger than .147 millimeters.

Figures 7 to 12 inclusive show the texture of sands

Histograms Illustrating Texture of *Frio* Sands

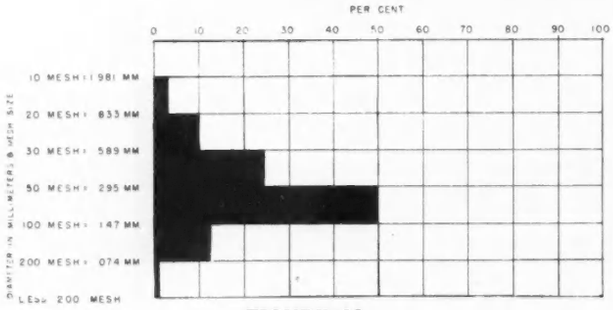

PER CENT
0 10 20 30 40 50 60 70 80 90 100
10 MESH=1.981 MM
20 MESH= .833 MM
30 MESH= .589 MM
50 MESH= .295 MM
100 MESH= .147 MM
200 MESH= .074 MM
LESS 200 MESH
DIAMETER IN MILLIMETERS & MESH SIZE

FIGURE 31

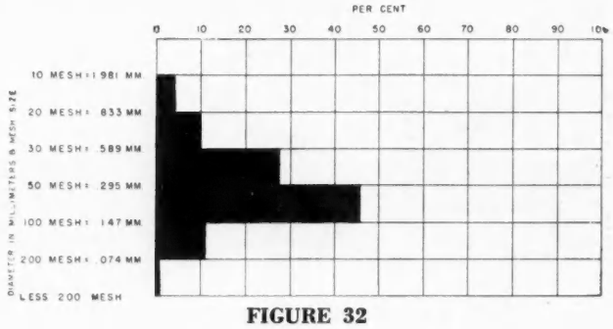

PER CENT
0 10 20 30 40 50 60 70 80 90 100
10 MESH=1.981 MM
20 MESH= .833 MM
30 MESH= .589 MM
50 MESH= .295 MM
100 MESH= .147 MM
200 MESH= .074 MM
LESS 200 MESH
DIAMETER IN MILLIMETERS & MESH SIZE

FIGURE 32

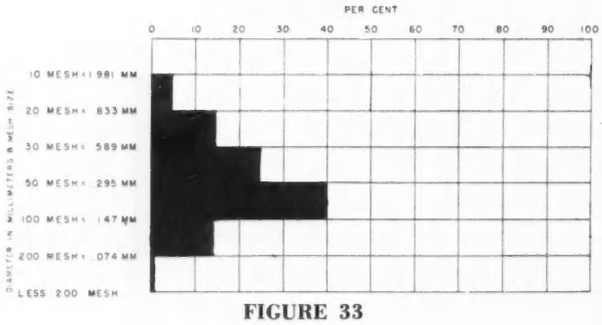

PER CENT
0 10 20 30 40 50 60 70 80 90 100
10 MESH=1.981 MM
20 MESH= .833 MM
30 MESH= .589 MM
50 MESH= .295 MM
100 MESH= .147 MM
200 MESH= .074 MM
LESS 200 MESH
DIAMETER IN MILLIMETERS & MESH SIZE

FIGURE 33

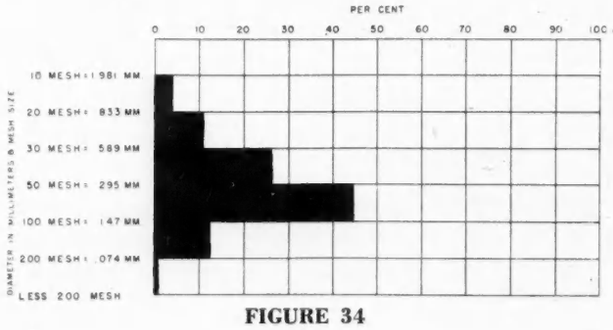

PER CENT
0 10 20 30 40 50 60 70 80 90 100
10 MESH=1.981 MM
20 MESH= .833 MM
30 MESH= .589 MM
50 MESH= .295 MM
100 MESH= .147 MM
200 MESH= .074 MM
LESS 200 MESH
DIAMETER IN MILLIMETERS & MESH SIZE

FIGURE 34

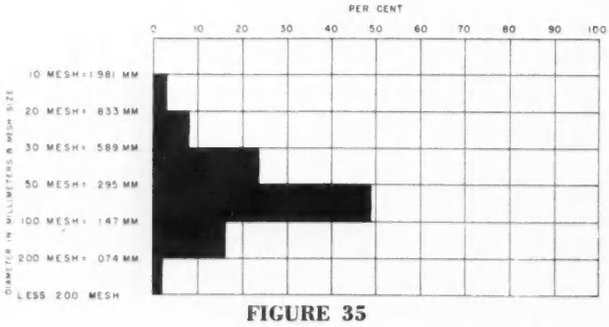

PER CENT
0 10 20 30 40 50 60 70 80 90 100
10 MESH=1.981 MM
20 MESH= .833 MM
30 MESH= .589 MM
50 MESH= .295 MM
100 MESH= .147 MM
200 MESH= .074 MM
LESS 200 MESH
DIAMETER IN MILLIMETERS & MESH SIZE

FIGURE 35

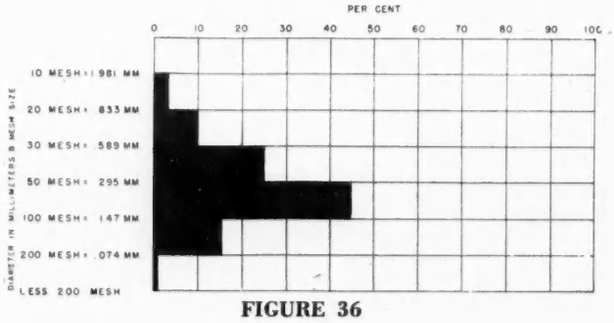

PER CENT
0 10 20 30 40 50 60 70 80 90 100
10 MESH=1.981 MM
20 MESH= .833 MM
30 MESH= .589 MM
50 MESH= .295 MM
100 MESH= .147 MM
200 MESH= .074 MM
LESS 200 MESH
DIAMETER IN MILLIMETERS & MESH SIZE

FIGURE 36

DOWN *more than* 1/2 Mile *in* 49 Hours *with* HAYSTELLITE

This 9-7/8-in. fishtail bit—hard-set with Haystellite and hard-faced with Composite Rod—made 3050 feet of out-to-gauge hole in 49 hours in the Tomball, Texas field.

● Bits that are hard set with Haystellite Inserts and hard-faced with Haystellite Composite Rod consistently drill the greatest footage of out-to-gauge hole that can be obtained with commercial materials. This is the reason why Haystellite products are used consistently by drillers all over the world.

● Haystellite Inserts and Haystellite Composite Rod are always uniform and dependable. Care and skill in manufacture guarantee their superior performance.

Haystellite Inserts and Haystellite Composite Rod are fully described in the booklet "Haynes Stellite Products in the Oil Fields," which also tells how to apply them to best advantage. Write for your copy today.

PRODUCT OF A UNIT OF UCC UNION CARBIDE AND CARBON CORPORATION

HAYSTELLITE TRADE MARK

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Chicago - Cleveland - Detroit - Houston - Los Angeles - New York - San Francisco - Tulsa

General Office and Works—Kokomo, Indiana

Foreign Sales Department—New York City

Haynes Stellite Welding Rods and information on other Haynes Stellite Products also are available through the 42 apparatus shipping points of The Linde Air Products Company

from the lower *MDv* zone. The figures illustrate a slightly different characteristic than those of the upper part of the zone in that grains larger than .147 millimeters and .074 millimeters are about in equal proportion. The other percentages are somewhat alike. From these results, it is conclusive that the upper sands of the *MDv* zone are coarser than those of the lower section of the zone.

The *Discorbis* zone sands were dominantly different than the *MDv* zone sands in that the largest percentage of the grains were larger than .147 millimeters. This percentage ran as high as 72 percent. Figures 13 to 18 inclusive illustrate the grain sizes in this zone. A comparison with the *MDv* zone figures show the relative difference.

The *Heterostegina* zone sands showed two distinct characteristics in grain sizes. One, in that the grains larger than .295 millimeters and larger than .147 millimeters were practically the same percentage and, two, the percentage of grains larger than .074 was very large. A study of the charts, Figures 19 to 24 inclusive, shows these results. The sands from this zone were rather distinctive in their physical characteristics and it is not surprising that distinct textural features were found to occur in this zone.

The *Marginulina* zone sands were dominantly fine-grained. This is illustrated in the histograms, Figures 25 to 30 inclusive, which show the largest percentage of grains to be larger than .074 millimeters. The physical characteristics of the sands in this zone are so defined to the naked eye that very little difficulty is encountered in determining the zone. The fine-grain "feel" and sharpness of grains to the eye are the distinguishing macroscopic features of the *Marginulina* zone sands.

The Frio sands differ most widely from all other sands studied. The so-called "rice grains" were characteristic in practically all the Frio sands, and the coarsest texture is the result. In no Frio sand sample was there any doubt as to what zone the sand belonged, as the macroscopic features were well marked. In the charts, Figures 31 to 36 inclusive, the diameter of the grain sizes were well distributed in the higher bracket. Grains larger than .833 millimeters were present in every sample, the maximum percent in this size being five units. Textural results could easily be employed in the determination of the Frio sands, as all of the samples

Histograms Illustrating Texture of *Cockfield* Sands

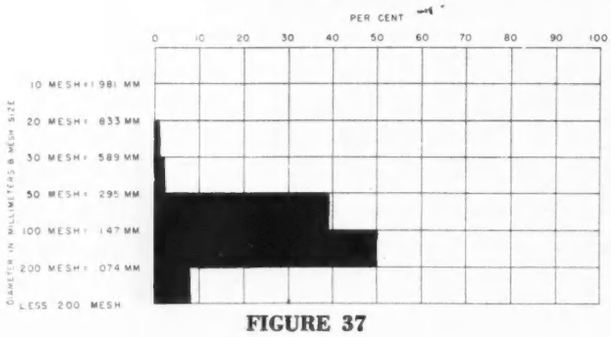

PER CENT
0 10 20 30 40 50 60 70 80 90 100
10 MESH=1.981 MM
20 MESH= .833 MM
30 MESH= .589 MM
50 MESH= .295 MM
100 MESH= .147 MM
200 MESH= .074 MM
LESS 200 MESH
DIAMETER IN MILLIMETERS & MESH SIZE

FIGURE 37

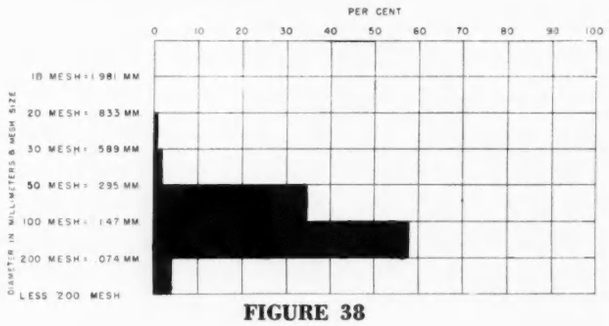

PER CENT
0 10 20 30 40 50 60 70 80 90 100
10 MESH=1.981 MM
20 MESH= .833 MM
30 MESH= .589 MM
50 MESH= .295 MM
100 MESH= .147 MM
200 MESH= .074 MM
LESS 200 MESH
DIAMETER IN MILLIMETERS & MESH SIZE

FIGURE 38

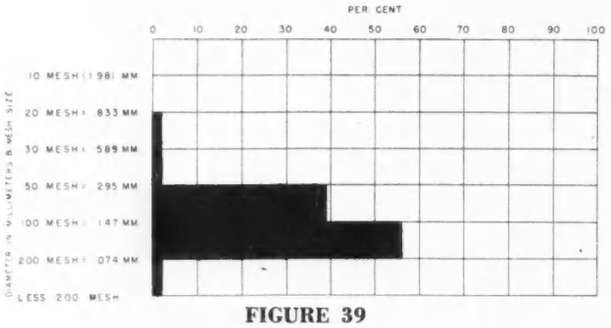

PER CENT
0 10 20 30 40 50 60 70 80 90 100
10 MESH=1.981 MM
20 MESH= .833 MM
30 MESH= .589 MM
50 MESH= .295 MM
100 MESH= .147 MM
200 MESH= .074 MM
LESS 200 MESH
DIAMETER IN MILLIMETERS & MESH SIZE

FIGURE 39

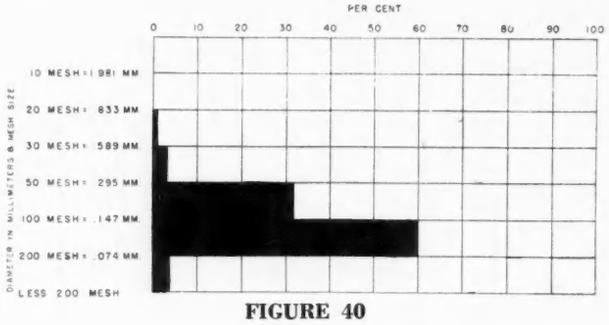

PER CENT
0 10 20 30 40 50 60 70 80 90 100
10 MESH=1.981 MM
20 MESH= .833 MM
30 MESH= .589 MM
50 MESH= .295 MM
100 MESH= .147 MM
200 MESH= .074 MM
LESS 200 MESH
DIAMETER IN MILLIMETERS & MESH SIZE

FIGURE 40

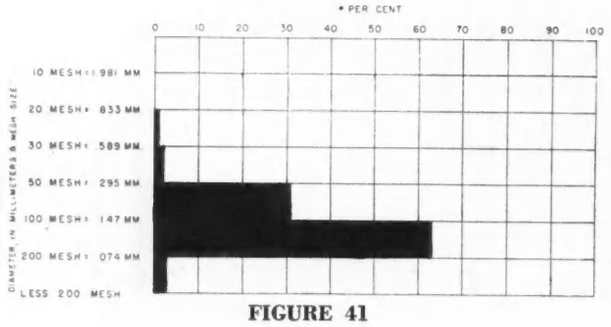

PER CENT
0 10 20 30 40 50 60 70 80 90 100
10 MESH=1.981 MM
20 MESH= .833 MM
30 MESH= .589 MM
50 MESH= .295 MM
100 MESH= .147 MM
200 MESH= .074 MM
LESS 200 MESH
DIAMETER IN MILLIMETERS & MESH SIZE

FIGURE 41

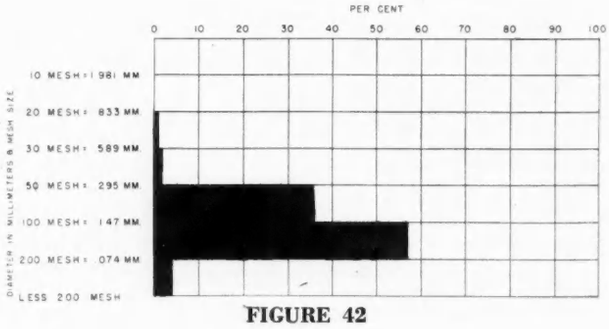
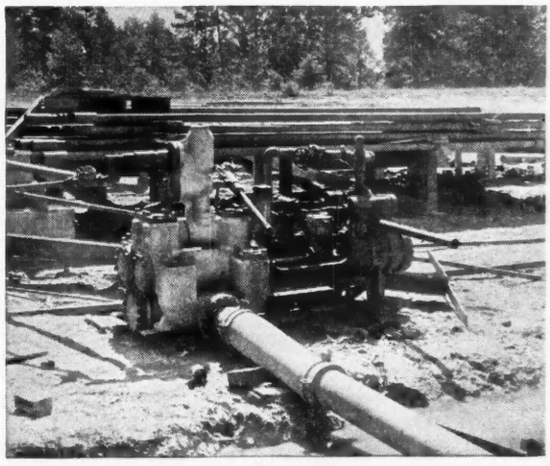

PER CENT
0 10 20 30 40 50 60 70 80 90 100
10 MESH=1.981 MM
20 MESH= .833 MM
30 MESH= .589 MM
50 MESH= .295 MM
100 MESH= .147 MM
200 MESH= .074 MM
LESS 200 MESH
DIAMETER IN MILLIMETERS & MESH SIZE

FIGURE 42

Veteran Oil Men are never "at Sea" when the time comes to specify... Oil Suction and Discharge HOSE

Thermoid No. 300 Grade Oil Suction and Discharge Hose is especially recommended for loading and unloading tankers at docks. Two spirals of wire, covered with multiple layers of rubber and fabric stoutly reinforced, prevent collapse under suction or expansion under pressure. Furnished in 4, 6, 8, 10 and 12 inch sizes either with built-in nipples or with nipples, clamps and anchor bars.

"Thermoid" is the brand name that comes quickly to mind when oil men think of Suction and Discharge Hose. They know that every detail of Thermoid construction is the result of first hand knowledge of working conditions.



Pictured above is a typical installation of Thermoid Slush Pump Hose—another product that is proving the merits of Thermoid scientifically engineered products.

Manufacturing this type of hose was not merely a matter of combining an oil-resisting rubber with reinforced plies of cotton fabric and a tough abrasion-proof outer rubber cover. To withstand the external wear to which this hose is submitted is only half the job. Thermoid Oil Suction and Discharge Hose will not collapse under suction nor burst with expansion in service. Galvanized steel wire in two alternating spiral wraps prevents this.

Every Thermoid product used in the oil fields is scientifically engineered for its job.

Thermoid

PRODUCTS FOR THE OIL INDUSTRY

DISTRIBUTED BY

OIL WELL SUPPLY COMPANY

Branch Stores in all Oil Fields

PUMPING AND DRILLING BELTS • BRAKE LININGS AND BRAKE BLOCKS
ROTARY HOSE • AIR, STEAM, WELDING, REFINERY HOSE • PACKINGS

studied show the large grain size characteristic and a general distribution of grains through all seven size grades.

The *Cockfield* sands were rather uniform in the distribution of grain sizes but contained no distinguishing textural feature to definitely isolate the sands from the other formations. Figures 37 to 42 inclusive, show the distribution of the sand grains. The grains larger than .074 seem to be the largest percentage as compared to the other grain sizes, but some of the lower *MDv* zone sands were somewhat similar. Reference should be made to Figures 7 to 12 inclusive for comparison. It was noted, however, that most of the Cockfield sands studied had a larger percentage of grains smaller than .074 millimeters than in the rest of the sands, and this feature alone could be possibly used as criterion for textural correlation purposes.

The *Upper Saline Bayou* sands were featured by the immediate grouping of the grains in three sizes. Figures 43 to 48 inclusive show this particular grouping of grains. In practically every sample sieved from this horizon the grains larger than .295 millimeters and .074 millimeters were fairly close in the percentage estimate with grains larger than .147 millimeters being in greater percentage than any grade size or the total addition of all other grade sizes.

Summary of Texture Results

The sands from each zone show some particular distinguishing feature that makes correlation of zones by grain size possible. Of course, similar features may occur in all sands which would mislead or misrepresent correlation, however, further study would probably indicate enough criterion to establish characteristic grain sizes for each zone.

The Frio sands are so differently marked from the other sands that definite correlation value is established. These sands could easily be correlated by textural characteristics throughout the Gulf Coast area.

The *Heterostegina* zone sands also have correlative characteristics which are general in the Coast area.

Other sands have correlative features and should be ascertained in future study.

Histograms Illustrating Texture of *Upper Saline Bayou* Sands

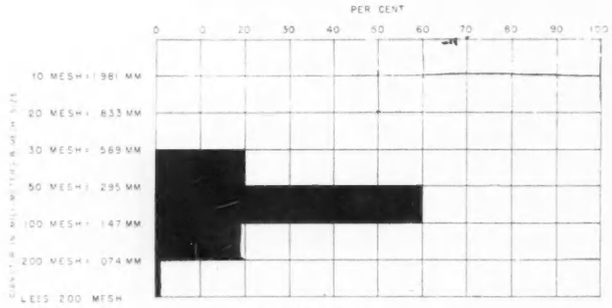


FIGURE 43

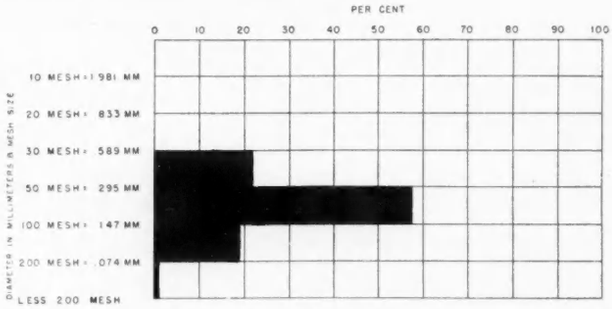


FIGURE 44

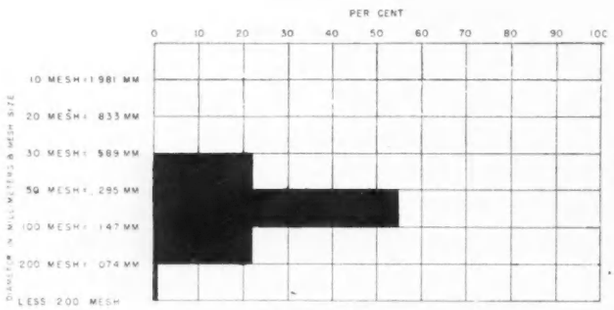


FIGURE 45

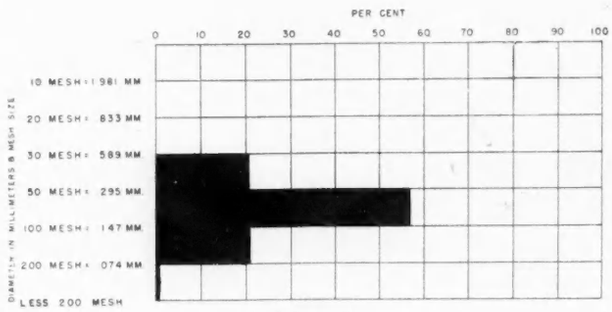


FIGURE 46

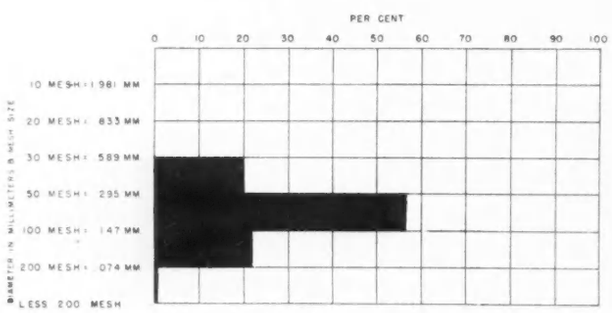


FIGURE 47

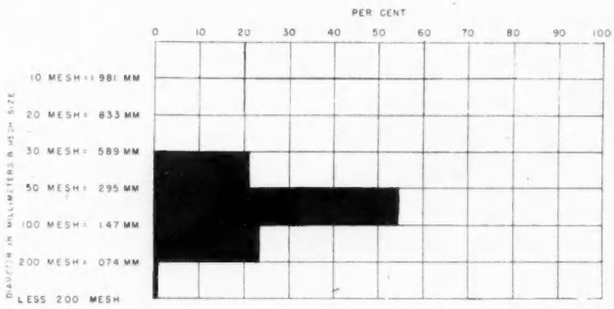


FIGURE 48

Evaluation of Oil Lands During Exploration

By CLARENCE P. DUNBAR, Consulting Geologist and Petroleum Economist, Houston, and V. G. GABRIEL, Consulting Geophysicist, Houston

A SIMPLIFIED method for the calculation of the value of oil land in the exploration stage, combined with a careful analysis of the existing data on the Texas-Louisiana Gulf Coast, would be of great practical value to oil and lease men of this area.

The lack of reliable data during the early leasing stage and the existence of numerous variable factors has caused many oil and lease men to rely too much on intuition and hunch rather than on a basis of calculated risk. Yet, the science of intelligent guessing was introduced as the "theory of probability" or "theory of errors" during the early sixteenth century by Pascal and Fermat, two great French mathematicians, in order to increase the winnings of their wealthy gambling friends.

Hayward[1] in an excellent article presents a mathematical method of calculating the value of wildcat land giving numerous formulas, computations, and examples that are basically useful. Two years later Ickes[2] published an article using a combined mathematical and graphical approach to the same problem giving a somewhat different classification of risks from Hayward and additional formulas and examples. Yet, in spite of the many examples and computations given in Hayward's, Ickes' and Reed's[2a] papers the methods used are difficult for the great majority of oil men to apply because an intelligent use of the formulas given requires a constant analysis and revision of geological and geophysical data as well as an appreciation of the mathematics involved.

An investment in wildcat land is a conscious or unconscious balancing between the probable chance of success, the original cost of the land and the future value of the oil if the venture is a success. Other factors that affect the balance between the above ratio are the rate of interest which can be obtained on capital in other fields, the time required to produce the oil, the present and future price of oil, drilling costs, expenses of production, and the amount and the reliability of the geological and geophysical information on the area under consideration.

The most difficult problem in making an estimate of the value of wildcat land is to determine the approximate chance the well has of obtaining production. A number of average figures representing different localities and types of risk are given in Table 1. In 1935 one

TABLE 1

Ratio of New Oil Fields to Number of Wildcat Wells Drilled

Texas Gulf Coast[4] 1935	1:17
Louisiana[5] Gulf Coast 1935	1:7†
Average Texas-Louisiana Gulf[6] Coast 1935	1:12†
Whole[6] United States 1859-1918	1:24
California[7] 1914-1932	1:28
Average[8] Major Oil Company Texas Gulf Coast 1935	1:3.9
Average[9] Major Oil Company Louisiana Gulf Coast 1935	1:3.6†
Ratio of non-productive[10] salt domes to productive salt domes in Texas-Louisiana Gulf Coast	1:9
Number of wells[11] required to establish production on geophysically discovered salt domes	3.1
Number of wells[11] required to establish production on non-geophysically discovered salt domes	12.1

† Data incomplete.
[4] National Oil Scouts Yearbook, 1935.
[5] Approximate, calculated from National Oil Scouts Yearbook, 1935.
[6] Approximate, average of Texas and Louisiana Gulf Coast.
[7] J. T. Hayward, Oil and Gas Journal, Nov. 15, 1934.
[8] E. L. Ickes, Bull. Am. Assoc. Pet. Geol., Vol. 20, No. 8.
[9] National Oil Scouts Yearbook, 1935.
[10] Approximate, calculated from Natiqnal Oil Scouts Yearbook, 1935.
[11] E. E. Rosaire and M. E. Stiles, Geophysics, Vol. 1, No. 1.

[1] J. T. Hayward, "Probabilities and Wildcats Tested Through Mathematical Manipulation," Oil and Gas Journal, Nov. 15, 1934. Hayward defines probability as follows: "In mathematical calculation it is customary to express probability in the form of a ratio in which the numerator corresponds to the number of favorable (or unfavorable) outcomes and the denominator to the possible number of outcomes." Hayward also puts forward a few mathematical formulas for computation as follows:

1. Expectation = E = Pp
2. Expectation = $E = P_1p_1 + P_2p_2 + P_3p_3 +$ etc.
3. C (Multitple Probability) = $p_1 \times p_2 \times p_3$ etc.
4. X (Break-even price which may be paid =

$$\frac{n\,(n+P)}{n\,(1-p)P}\left[\left(1-\frac{P}{n}\right)^{p}-1\right]$$

Where P, P_1, P_2 means prize in dollars
p, p_1, p_2, p_3 . . . . probabilities of success
n means an available fund in dollars.

Hayward also gives other formulas which are not included.

[2] E. L. Ickes, "Estimation of Probable Value of Wildcat Land," Bull. Am. Assoc. Pet. Geol. 20, No. 8, 1936. Some of Ickes formulas are given below as follows:

PROVED ACREAGE: $R = \int_0^t rdg$

Where R = (Total operating profit per acre)
r = profit per barrel of oil.
t = time.
g = cumulative production per acre.

CLASS I (KNOWN STRUCTURES) $p = e^{-ax}$ $P = pe^{-bz}$

Where p is the probability of success for structure rating x
P is the probability of success for an acre on the structure
a is a constant
e = 2.7183, the base of natural logarithms
b is a constant
z = structural position; z = 0, 1, 2, 3, for the best, good, fair, and poor structural positions respectively.

CLASS II (SUSPECTED STRUCTURES) $E = pp_1p_0N$

Where E = the expected net profits per acre
N = probable net profits per acre
p, p_1, p_0 = probabilities.

Ickes also gives other formulas which are not given.

[2a] H. L. Reed, "Probable Oil Value of a Lease," unpublished manuscript, Houston, Texas. The author uses formulas similar to Hayward and discusses the application of mathematical probability to various conditions in the oil productiton field.

wildcat well out of every seven drilled in the Louisiana Gulf Coast brought in a new field; while in the same year one wildcat well out of every 17 drilled in the Texas Gulf Coast brought in a new field. The Louisiana average is based upon incomplete data and is probably too favorable for safe use since there is no logical geophysical or geological reason for the large variation. Hence, in most cases, the use of the figures on the Texas Gulf Coast or at best an average of the Texas-Louisiana figures would probably be a better interpretation of the present Gulf Coast risk. It is also interesting to note that the major oil companies obtained remarkable results in 1935 by proving a new field for each 3.9 wildcat wells drilled in the Texas Gulf Coast and a new field for each 3.6 wildcat wells drilled in the Louisiana Gulf Coast. These figures on first thought seem too favorable, yet, they seem to check fairly closely (Table 1) with the number of wells required[3] to establish production on a geophysically discovered dome. Since the average figures are made up of all cases, some very high and some very low, it can be understood readily that these average figures must be used with a great deal of caution, especially when dealing with wells drilled by "poor boys" and inexperienced promoters. Hence, the first question to answer when making an analysis of this kind is "Who is drilling the well"? If it is a major oil company you may be certain that the location is made upon the basis of fairly reliable geophysical and geological information. Similarly, if the well is being drilled by a fairly strong independent oil operator, who is in the habit of basing his locations upon a reasonable amount of geophysical and geological information, his chance of success, while less than the major oil company, is probably better than the average figure. If, on the other hand the well is being drilled by an inexperienced group upon very incomplete information their chance of success may be considerably less than the average figure. Hence, it can be seen that these average figures are to be used merely as guides and not as static figures which are to be applied blindly to all cases.

The next step in the evaluation is to make a rough estimate of the possible size and productiveness of the suspected oil field by studying the characteristics of the surrounding oil fields and using whatever geophysical and geological information that is available on the area.

[3] E. E. Rosaire and M. E. Stiles, Geophysics, Vol. 1, No. 1.

TABLE 3
Classification of Seismograph and Torsion-Balance Discovered Salt Domes in the Texas-Louisiana Gulf Coast

Year of Discovery	Number of Fields	Average Number Productive Acres	Average Depth Producing Formations	Ratio of Oil Wells to Dry Holes
1924–1925	9	56	3,070 ft.	.68:1
1926–1927	18	101	3,200 ft.	1.6:1
1928–1929	20	302	4,000 ft.	2.1:1
1930–1931	4	1,050*	3,720 ft.	5.4:1
1932–1933	9	1,060*	5,593 ft.	3.3:1
1934–1935	22	477	6,500 ft.	3.2:1

*Average figures high during these years because of the discovery of Thompson, Tomball, and Dickinson fields with large acreages.
*SOURCE: Oil Weekly, Gulf Coast Number, March 16, 1936
Petroleum Development and Technology, A.I.M.E. Transactions, Vol. 118.
George Sawtelle, "Salt Dome Statistics," Bull. Am. Assoc. Pet. Geol., Vol. 20, No. 6.

If there are no oil fields near the drilling well and no geophysical and geological information is available then it will be necessary to use an average figure. A careful study of Table 2, which classifies the oil fields of the Texas-Louisiana Gulf Coast by size of acreage, frequency of distribution, and oil productiveness per acre, will be of material assistance in the selection of an average figure for the prospective oil field. If the well being drilled is a geophysical location it would be better to use the average acreage figures found in Table 3, which classifies the oil fields discovered by the use of seismograph and torsion-balance by size of productive acreage and by year of discovery.

After determining the most probable productive acreage of the suspected oil field the next step is to see Table 2 (Column 6) and note the corresponding approximate distance from the drilling well which will be within the external limits of the prospective field. If we assume then that the well is being drilled upon the center of the suspected structure and that the production will be solid and roughly circular or square in shape any acreage within this radius has a 100% chance (For purposes of calculation only) of being productive. However, since these calculations are based on average figures there is always some chance that production will be obtained outside this area. It follows that the acreage situated outside this most probable productive area has less chance of being productive, and the further it is away from the center of the suspected structure the less becomes the chance of success. This lessening of the

TABLE 2
Salt Domes and Domal Structures of Texas-Louisiana Gulf Coast By Size of Productive Acreage

Size Productive Acreage	Number of Fields	Average Productive Acreage	Estimated* Ultimate Production Per Acre Barrels	Percent Wells Productive	Percent Wells Dry Holes	Approximate† Radius of Productive Structure Feet
0—24	25	15	19,600	24	76	450
25—49	10	30	23,200	36	64	600
50—99	24	57	32,200	46	54	850
100—199	15	114	27,900	60	40	1,200
200—299	20	223	47,200	68	32	1,650
300—399	11	325	59,100	68	32	2,050
400—499	6	433	179,000‡	84	16	2,350
500—699	6	537	76,700	81	19	2,600
700—899	3	750	75,900	82	18	3,100
900—1099	4	960	75,700	79	21	3,500
1100—1299	2	1,200	48,700	64	36	3,900
1300—1499	1	1,400	7,500	72	28	4,200
1500—1979	3	1,630	28,600	81	19	4,550
2000—2499	4	2,230	37,180	74	26	5,300
2500—3499	2	2,800	45,606	81	19	5,950
3500—4999	1	3,885	54,123	89	11	6,950
5000—Up	4	11,400	19,800	94	6	12,000
	131					

†Approximate radius of productive structure based on average productive acreage. (Column 3).
‡Average figure high because this group includes Spindletop.
*Oil Weekly, Gulf Coast Number, March 16, 1936 gives the average ultimate production per acre in Texas-Louisiana Gulf Coast as 45,853 barrels; Texas (45,452); Louisiana (46,254).
Note: Use interpolation to obtain approximate radius for the most probable productive acreage.
Source: Petroleum Development and Technology, A.I.M.E. Vol. 118; Oil Weekly, Gulf Coast Number

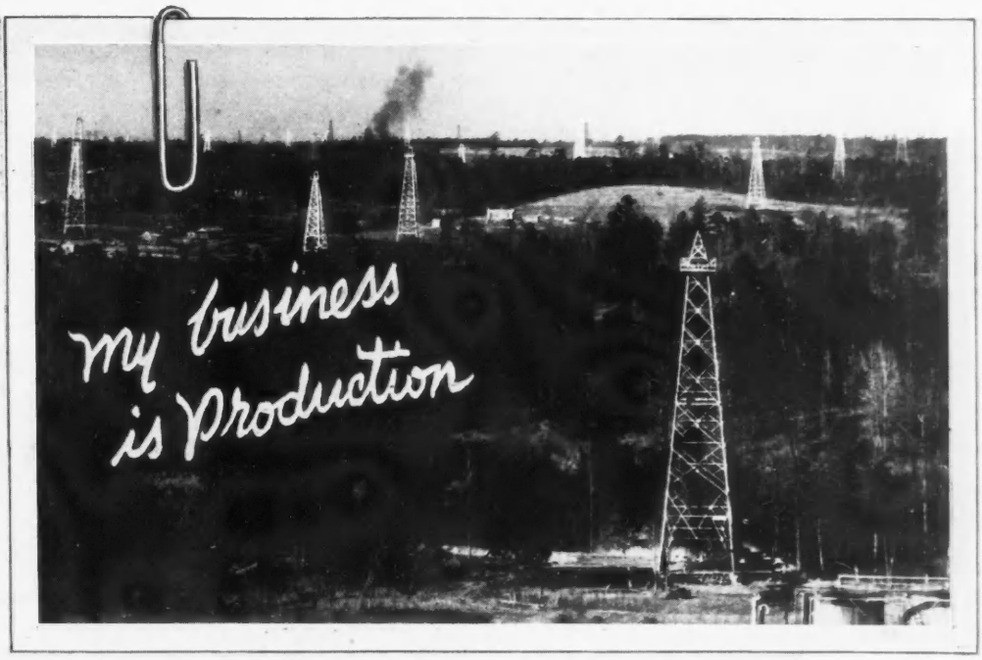


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TABLE 4
Present Value of a $1.00 Barrel of Oil 0-30 Years Hence

YEAR	Value	Year	Value	Year	Value
0	$1.00	11	$0.58	22	$0.34
1	.95	12	.55	23	.32
2	.90	13	.53	24	.31
3	.86	14	.50	25	.29
4	.82	15	.48	26	.28
5	.78	16	.45	27	.26
6	.74	17	.43	28	.25
7	.71	18	.41	29	.24
8	.67	19	.39	30	.23
9	.64	20	.37	....	....
10	.61	21	.35	....	....

Note: Compound interest at 5% per year.

chance of success may be roughly expressed as inversely proportional to the square of the ratio of the distances from the drilling well. For example, if we assume that the most probable productive area has a radius of 2,000 feet and the wildcat land under consideration is located 4,000 feet from the drilling well, then the ratio is 2,000: 4,000 or ½ and $(½)^2 = ¼$. Hence, the chance of success of land located 4,000 feet from the drilling well is only ¼ of that located within the most probable productive area. In cases where geophysical and geological structures are definitely known the possible productive acreage can be calculated and substituted for the most probable productive area used above.

The drilling and production costs per acre are the next question to consider. They depend upon many factors such as location, depth, type of formations encountered, well spacing, ownership, and the like, and vary so greatly from one locality to another that no average cost figures will be given. Even so, they must be carefully considered and any evaluation of wildcat land which omits drilling and production costs from the calculation is likely to be very misleading in its final results.

Time Required to Produce

The last question to be considered is the time required to produce all the available oil. Under present conditions of restricted production it requires years to produce the last barrel of oil. This simply means that in calculating the value of wildcat land it must be considered as a long time investment, even if the buyer expects to sell the acreage when it becomes proven production. In other words the present value of one barrel of oil at the surface ready to be sold is not the same as a similar barrel of oil ten years from now, even if the price of oil remains the same. Hence, this apparent value must be corrected for this time factor. This can be done by consulting Table 4, a compound interest table of the present value of $1.00 (The equivalent of one barrel of oil at a price of $1.00) at five percent compound interest at periods from one to thirty years.

If five percent per year compound interest be considered a fair rate, then the present value of a $1.00 barrel of oil ten years from now is only $0.61 cents. However, since the oil is being constantly produced and the investment gradually liquidated it might be said that the present value of the oil in the ground today is roughly 75 percent of its total value if produced within a period of ten years.

It should be well understood that the factors discussed so far refer only to a "break-even" price. In other words a company or individual oil operator who pays these "break-even" prices will make no profit in the long run. Hence, to make wildcat investments profitable a company must pay less than this computed price. The amount of margin allowed between the "buying price" and the "break-even" price depends upon many factors such as company policy, market price, capital available for speculation in wildcat land, the location of the prospect with regard to transportation and refining facilities of various companies, and the present need of a company for production in a certain area.

Example:

The X Company, a small independent oil operator, is drilling a well on a supposed geophysical and geological structure which might indicate a deep seated salt dome. Within a 20-mile radius of the drilling well are four deep seated oil producing domes. The average productive area of these domes is 1,000 acres and the average estimated ultimate production per acre 33,000 barrels. The Z Company has a chance to buy a 100-acre block in fee located 3,500 feet from the drilling well for $2,500 per acre. The Z Company also has a chance to buy another 100-acre block in fee 7,000 feet from the drilling well for $300 per acre. The Z Company wishes to know whether these prices are "right" or "too high" and which of these blocks is the best buy at the quoted price.

Estimated size of possible oil field 1,000 acres.

Estimated chance of wildcat hitting 1:12.

Estimated average production per acre 33,000 barrels.

Estimated drilling cost $5,000 per acre.

Average price of crude oil $1.00 per barrel.

Estimated present worth of crude oil if produced in 10 years 75 percent.

Calculations 1st block:

$$\$33{,}000 - \$5{,}000 = \$28{,}000$$

$$\frac{\$28{,}000}{12} = \$2{,}333$$

$\$2{,}333 \times 75\% = \$1750$ "break-even" price per acre.

Calculations 2nd block:

Since the second block is located 7,000 feet from the drilling well (assumed center of structure) its chance of getting oil will be less than the block located 3,500 feet from the drilling well. As explained earlier its chance of success will be inversely proportional to the square of the ratio of the distances from the center of the structure. Hence, the calculations are as follows:

$$\frac{3{,}500}{7{,}000} = \frac{1}{2}$$

$(½)^3 = ¼$

$\frac{1}{12} \times \frac{1}{4} = \frac{1}{48}$ Chance of success of 2nd block.

$\frac{\$28{,}000}{48} = \$585 \times 75\% = \$450$ per acre "break-even" price.

Market price 1st block $2,500 Market price 43% higher than "break-even"price.
"Break-even" price 1st block $1,750

Market price 2nd block $ 300 Market price 33% lower than "break-even" price.
"Break-even" price 2nd block $ 450

It is much more difficult to make an estimate of the value of a block of wildcat land than it is to make an estimate of the value of proven acreage. However, if reliable geophysical and geological data are available the calculations on chance of hitting production and the location of desirable acreage on the structure are much more definite and while all problems of wildcat evaluation have many points of similarity, yet, in the final analysis, each problem is separate and distinct from every other one because of the emphasis placed upon the many variable factors involved.

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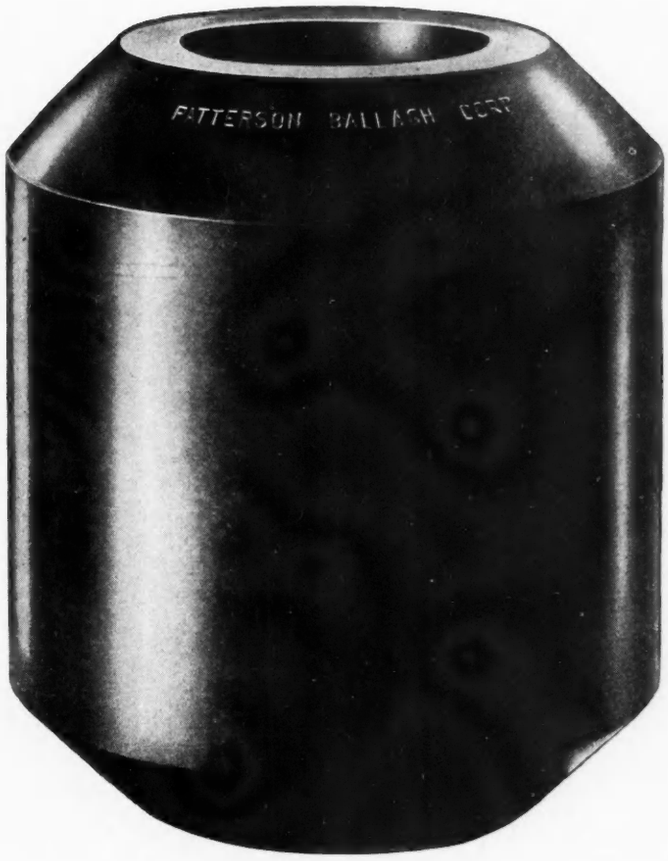

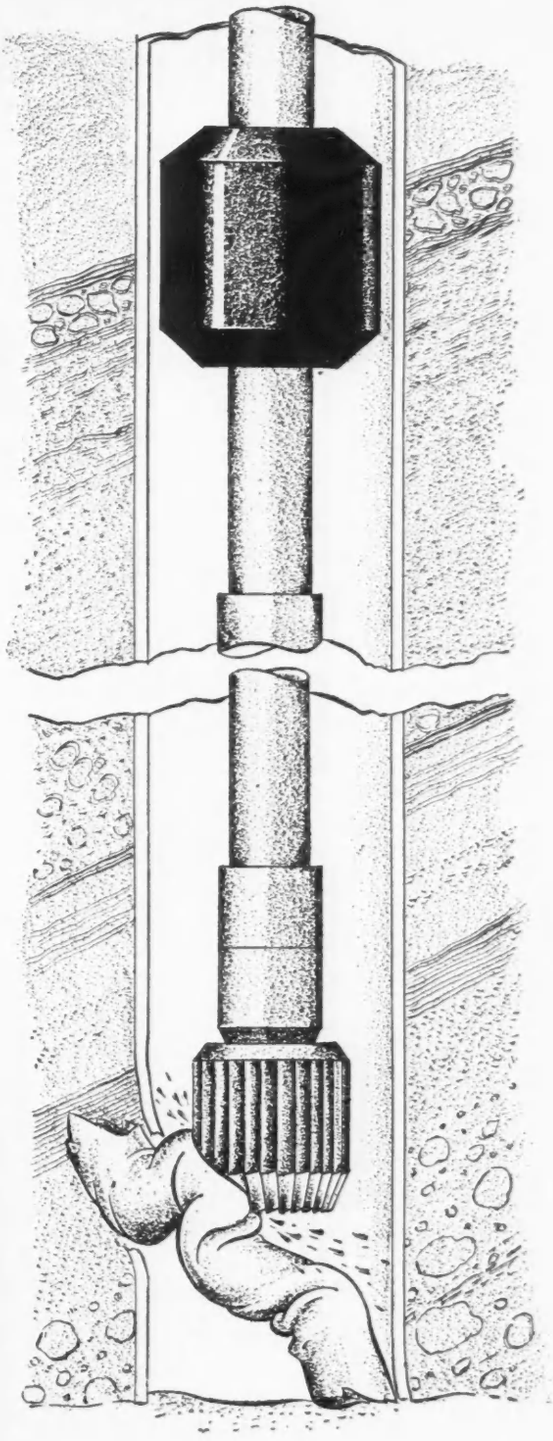

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FUEL AND KEROSENE PRICES CONTINUE UP: OTHERS STEADY

THE oil industry's general market situation continues healthy, and no material change is indicated for the immediate future.

Fuel oil and kerosene prices have continued to work upward, with available supplies falling short of the heavy demand.

Cold weather has tended to hold down gasoline consumption, but the demand has continued comparatively large, and prices have been holding unchanged. Both tank car and retail prices are slightly higher than a month ago, and they are around a quarter cent higher than at this time last year.

The favorable markets for refined oils are promoting remarkable strength in the crude oil market, and it appears quite possible that higher crude postings may be in store.

In various sections of the Mid-Continent, refiners are having difficulty in obtaining adequate supplies of crude, and in some cases purchasers are paying premiums above the regular postings. In South Texas, for instance, premiums are being paid, even though postings recently were advanced 5 cents a barrel. The unusual strength of the crude market in that area is due largely, of course, to the suitability of the oil for fuel oil manufacture. But the crude markets are generally firm, also, in most other sections of the country.

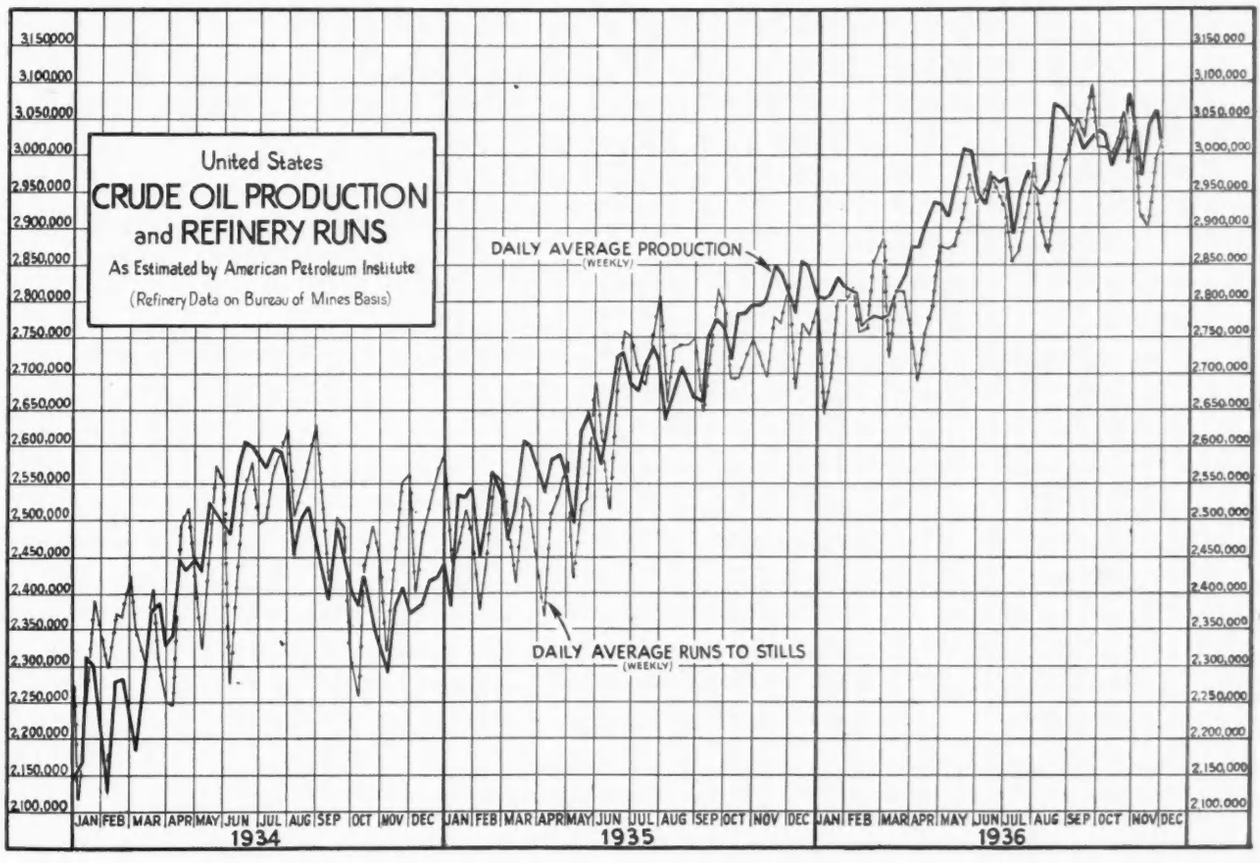
The most important circumstance of an unfavorable nature in the crude market picture is the impending increase in production, authorized for December in Texas. The state's allowable as of December 1 was fixed about 56,000 barrels daily above the Bureau of Mines recommendation. However, the Texas Railroad Commission explained that it had evidence, obtained from purchasers, that a market existed for the full amount of production that the new allowables prescribe.

Prominent companies in Texas are inclined to assume that the markets readily will absorb all the production that the commission has authorized.

Gasoline tank car prices remained mostly unchanged in the Mid-Continent during the past week. U. S. Motor gasoline was priced about as follows f. o. b. Oklahoma refineries: 62 octane and below 4¾ cents a gallon; 63 to 67 octane, 5⅛ to 5⅜ cents; and 68 to 70 octane, 5¾ cents. Corresponding prices in the Chicago market were: 4½ to 4⅞ cents, 5 to 5¼ cents, and 5½ to 5⅞ cents. The third-grade gasoline supported by federal tenders continued at 4⅝ cents in East Texas.

Kerosene prices were somewhat firmer. The 41-43 water white grade was bringing 3⅝ cents a gallon and the 42-44 water white grade 3¾ cents in the Oklahoma market. In the Chicago market the prices ranged from those same levels to one-eighth cent less.

Gas oil and fuel oil prices were stronger in the Oklahoma market and unchanged in the Chicago area. The No. 1 white oils ranged from 3⅜ to 3⅝ cents in both districts, and the No. 2 oils from 3¼ to 3½ cents in Oklahoma and one-eighth cent less in the Chicago district.



STOCKS DECLINE
Oil in storage decreases 230,000 barrels in week

Washington, D. C.—Stocks of domestic and foreign crude petroleum at the close of the week ending November 14 totalled 289,964,000 barrels, according to data compiled by the Bureau of Mines for Harold L. Ickes, secretary of the interior. Compared with figures of the previous week, this total represents a decrease of 230,000 barrels, comprising decreases of 90,000 and 140,000 barrels in domestic and foreign crude, respectively.

Current reports of the industry for the week ending November 14 indicate that crude oil production increased but runs to stills decreased. The daily average crude oil production was about 3,056,000 barrels, or 66,000 barrels above the level of the previous week. Daily average crude runs to stills were about 2,900,000 barrels, or 20,000 barrels below the daily average of the week ending November 7. Imports increased, the daily average being 118,000 barrels compared with a daily average of 109,000 for the week ending November 7.

Stocks of Crude Petroleum November 7 and 14, 1936
(Barrels of 42 gallons)

Grade of Crude Oil	November 7	November 14	Change from November 7
Pennsylvania Grade	4,128,000	4,139,000	+ 11,000
Other Appalachian	606,000	595,000	— 11,000
Lima-N. E. Indiana—Michigan	984,000	996,000	+ 12,000
Illinois—S. W. Indiana	9,832,000	9,858,000	+ 26,000
North Louisiana and Arkansas	10,760,000	10,510,000	— 250,000
West Texas and S. E. New Mexico	28,543,000	28,564,000	— 21,000
East Texas	18,611,000	18,522,000	— 89,000
Other Mid-Continent	116,033,000	115,885,000	— 148,000
Gulf Coast	26,760,000	26,719,000	— 41,000
Rocky Mountain	25,469,000	25,404,000	— 65,000
California	30,179,000	30,523,000	+ 344,000
Foreign	1,789,000	1,649,000	— 140,000
Total reported weekly	273,694,000	273,364,000	— 330,000
Estimates of unreported stocks	16,500,000	16,600,000	+ 100,000
Total stocks	290,194,000	289,964,000	— 230,000

East Texas Tank Car Shipments
Week Ending November 29, 1936

PRODUCTS—	No. Cars	Estimated Gallons
Gasoline	661½	5,510,300
Fuel oil	296	2,817,948
Casinghead gasoline	108	936,079
Distillate	87	708,164
Gas oil	21	170,287
Topped crude	14	133,219
Residuum	14	113,205
Naphtha	5	40,348
Kerosene	3½	24,724
Total	1,210	10,454,274
Total previous week	1,214	10,166,320
Intrastate	411	.....
Coastwise	400	.....
Interstate	399	.....
Total	1,210	.....

FUEL OIL WEAK

Los Angeles.—Due to tying up more than 200 ships along the West Coast, fuel oil has eased off, and some of the smaller refineries with full storage tanks are reducing prices for spot sales. Reports are some fuel oil is moving at 50 cents. Use of bunkers by large vessels touching at Los Angeles and San Francisco harbors has accounted for a good part of the fuel oil moved during the past few years, and with these vessels tied up on account of the maritime strike, this market has been almost completely lost for the present. Fuel oil requirements of the U. S. fleet, now stationed in the Pacific, are covered by long time contracts.

Kerosene is also weak on account of the strike. Tankers are moving without trouble, but cased goods cannot be moved, since the strikers refuse to load such cargo. Hence, movement of cased goods from California ports during November will show a big decrease.

PLAN APPROVED
Consummation expected on Richfield deal soon

Los Angeles.—United States District Judge James announced December 3 he would approve the reorganization plan offered by Consolidated Oil Corporation covering Richfield Oil Company, which has been in receivership for several years. The plan calls for the merger of Richfield with Rio Grande Oil Company under the name of Richfield Oil Corporation.

Formal sanction will include a few modifications of the plan which will be accepted by all parties. The board of directors will consist of 11 men and include Harry F. Sinclair, George MacDonald, W. A. Jones, Charles S. Johnes, H. R. Gallagher, William C. McDuffie and others.

Just how soon the plan will be placed into effect is not known.

The new company will start out with ample capital, large gasoline distributing facilities, and a fair amount of crude production. It is understood plans call for an aggressive drilling campaign early next year.

Summary of Wells Completed in the United States Week Ending December 5, 1936

	Completions	Oil Wells	Gas Wells	Failures	Initial Production	Total Completions 1936	Total Completions this date, 1935
Alabama	....	....	....	....	.....	2	4
Arkansas	5	2	1	2	450	88	120
California	19	16	....	3	3,160	1,044	802
Colorado	....	....	....	....	.....	18	11
Florida	....	....	....	....	.....	2	....
Illinois	....	....	....	....	.....	4	9
Indiana	....	....	....	....	.....	165	173
Kansas	44	26	3	15	25,523	1,590	1,307
Kentucky	8	3	....	5	105	256	169
Louisiana	20	10	3	7	7,111	950	682
Michigan	19	10	2	7	2,261	728	554
Mississippi	....	....	....	....	.....	8	19
Montana	....	....	....	....	.....	178	164
Nebraska	....	....	....	....	.....	1	....
New Mexico	12	12	....	....	17,096	533	277
New York	....	....	....	....	.....	....	....
Ohio	29	5	16	8	81	1,810	1,410
Oklahoma	56	31	6	19	17,476	2,690	2,273
Pennsylvania	....	....	....	....	.....	....	122
Texas	292	212	6	74	341,857	11,806	11,029
Utah	....	....	....	....	.....	....	1
West Virginia	12	2	9	1	6	581	575
Wyoming	....	....	....	....	.....	86	66
Total this week	516	329	46	141	415,126	22,542	19,683
Total last week	501	334	67	100	355,937	....	....
Total this year	22,542	15,141	2,112	5,289	20,962,902	....	....

Comparison of Permits Granted for New Wells

STATE	Week Ending Dec. 5	Total this Mo.	Total this Year	Total this Date Last Year	1935 Year Total
Arkansas	1	1	94	62	70
California	31	31	995	912	925
Louisiana	24	24	1,069	802	846
Kansas	42	42	1,741	1,130	1,204
Michigan	19	19	719	712	749
Oklahoma	55	55	2,412	2,176	2,311
Texas	153	153	14,755	10,342	10,800
Total	325	325	21,785	16,136	16,964

PRODUCTION DOWN

35,575-barrel decline in United States output

UNITED STATES crude oil production averaged 2,975,175 barrels daily during the past week, ended December 5. That was 37,575 barrels a day less than in the previous week and 44,875 barrels a day more than the Bureau of Mines recommendation for December average daily output.

The decrease from the previous week resulted largely from declines in Oklahoma and Kansas, with New Mexico also showing a slight decrease. Output was somewhat higher, meanwhile, in Texas, California and Louisiana.

Oklahoma last week averaged 529,100 barrels daily, or 39,025 barrels a day less than in the previous week, and 37,900 barrels a day less than the Bureau of Mines allocation.

Kansas output was down 5200 barrels from the previous week at 160,200 barrels daily, but still was 4300 barrels a day above the federal quota.

New Mexico was down 100 barrels in averaging 83,400 barrels daily, but still was 5100 barrels a day above the state's allocation.

Texas last week averaged 1,158,300 barrels daily, or 4300 barrels a day more than in the preceding week. The state was 13,100 barrels a day above its federal allocation.

California production was up 3000 barrels to an average of 571,000 barrels daily. The new figure was 17,600 barrels above the Bureau of Mines recommendation.

Louisiana last week averaged 237,725 barrels daily, or 3450 barrels a day more than in the previous week and 32,925 barrels a day more than the bureau suggestion.

WAGE BONUSES

Two more oil companies to give employees extra

Tulsa.—Two additional oil concerns have announced that employees will share with stockholders in a large distribution of earnings during December. The two are Phillips Petroleum Company and Continental Oil Company.

Employees of Phillips Petroleum Company who have been on the payroll continuously since January 1, 1936, will be paid an extra two weeks salary on December 15, according to Frank Phillips, president. Total distribution is expected to amount to about $500,000.

Continental Oil Company at the same time will receive a special bonus. Those with one or more years' service will get two weeks' wages while those with less than one year's service will get one weeks pay extra. This distribution will be to about 5000 employees, according to Dan Moran, president, who also called attention to the fact that the company has never made a general wage or salary reduction, even during the recent depression period.

United States Crude Oil Production

Estimates Compiled by The OIL WEEKLY

DISTRICT OR STATE	Bureau of Mines Recommendation (Daily in Dec.)	ACTUAL PRODUCTION: BARRELS DAILY FOR WEEK ENDING	
		December 5	November 28
TEXAS—			
Texas Panhandle	.....	63,500	63,300
North Texas	.....	64,600	64,600
West Central Texas	.....	33,600	33,800
West Texas	.....	152,700	152,800
East Central Texas	.....	77,100	74,800
*East Texas Field	.....	444,100	443,400
South Texas	.....	170,500	169,100
Texas Gulf Coast	.....	152,200	152,200
*Total Texas	1,145,200	1,158,300	1,154,000
OKLAHOMA—			
Oklahoma City	.....	113,575	143,475
Seminole Area	.....	132,275	135,500
Tatums	.....	3,650	3,600
Lucien	.....	12,350	12,500
Fitts	.....	60,600	63,875
Edmond	.....	9,375	11,375
Others	.....	197,275	197,800
Total Oklahoma	567,000	529,100	568,125
KANSAS—			
Ritz-Canton	.....	5,875	5,900
Voshell	.....	2,800	2,825
Nikkel-Hollow	.....	3,700	3,700
Sedgwick	.....	4,625	4,750
Burrton-Haury	.....	13,200	13,500
Lorraine	.....	5,575	6,400
Oxford	.....	2,975	3,025
Others	.....	121,450	125,300
Total Kansas	155,900	160,200	165,400
LOUISIANA—			
North Louisiana	.....	79,525	77,475
Louisiana Gulf Coast	.....	158,200	156,800
Total Louisiana	204,800	237,725	234,275
ARKANSAS	26,800	27,350	27,550
CALIFORNIA—			
Long Beach	.....	65,000	64,000
Santa Fe Springs	.....	43,500	44,500
Huntington Beach	.....	35,500	34,000
Dominguez	.....	25,000	25,000
Inglewood	.....	11,000	13,500
Ventura Avenue	.....	35,000	35,000
Seal Beach	.....	9,000	8,500
Midway-Sunset	.....	63,000	56,000
Elwood	.....	11,000	11,500
Kettleman Hills	.....	77,000	76,500
Mountain View	.....	20,000	21,000
Playa del Rey	.....	11,000	11,500
Others	.....	165,000	176,000
Total California	553,400	571,000	568,000
MOUNTAIN STATES—			
Wyoming	40,200	43,600	46,600
Montana	14,300	17,900	17,900
Colorado	4,500	3,500	3,700
Total Rocky Mountain States	59,000	65,000	68,200
NEW MEXICO	78,300	83,400	83,500
EASTERN STATES	110,600	113,400	113,900
MICHIGAN	29,300	29,700	29,800
*Total United States	2,930,300	2,975,175	3,012,750
*Surreptitiously produced oil in East Texas, not included in above figures, estimated at	.....	10,000	8,000
Grand Total, including surreptitious production	.....	2,985,175	3,020,750

Crude Runs To Stills; Stocks of Finished and Unfinished Gasoline and Gas and Fuel Oil, and Cracked Gasoline Production, Week Ended November 28, 1936

(Figures in thousands of barrels of 42 gallons each as reported to American Petroleum Institute)

DISTRICT	Daily Refining Capacity			Crude Runs to Stills		Stocks of Finished and Unfinished Gasoline				Stocks of Gas and Fuel Oil			Daily Charging Capacity of Cracking Units			Cracked Gasoline Production
		Reporting				Finished		Unfinished in Naphtha Distillates	Total Finished and Unfinished					Reporting		
	Potential Rate	Total	%	Daily Average	% Operated	At Refineries	Terms. Trans. Pipe Lines			Gas, Oil & Distillates	Residual Fuel Oil	Total	Potential Rate	Total	%	Daily Average
East Coast	612	612	100.0	514	84.0	4,522	8,718	851	14,091	6,051	5,872	11,923	534	534	100.0	117
Appalachian	154	146	94.8	110	75.3	899	1,000	259	2,158	352	315	667	79	78	98.7	23
Ind., Ill., Ky.	475	457	96.2	423	92.6	4,442	3,400	700	8,542	3,190	3,029	6,219	349	348	99.7	133
Okla., Kans., Mo.	453	384	84.8	280	72.9	3,173	2,048	455	5,676	1,183	2,316	3,499	256	228	89.1	78
Inland Texas	330	160	48.5	112	70.0	1,421	53	207	1,681	407	1,319	1,726	148	105	70.9	33
Texas Gulf	732	710	97.0	642	90.4	5,165	237	2,005	7,407	4,449	4,265	8,714	399	393	78.5	149
Louisiana Gulf	169	163	96.4	117	71.8	942	339	155	1,436	1,187	988	2,175	77	74	96.1	25
North La.,—Ark.	80	72	90.0	57	79.2	168	55	43	266	180	253	433	46	44	95.7	10
Rocky Mountain	97	60	61.9	43	71.7	808	.....	91	899	210	574	784	46	39	84.8	12
California	852	789	92.6	489	62.0	8,437	2,070	1,192	11,699	.....	.....	73,610	280	280	100.0	87
Reported	.....	3,553	89.9	2,787	78.4	29,977	17,920	5,958	53,855	.....	.....	109,750	.....	2,123	95.9	667
Estimated Unreported	.....	401	.....	233	.....	2,159	1,026	408	3,593	.....	.....	2,275	.....	91	.....	43
*Estimated Total U. S. November 28, 1936	3,954	3,954	.....	3,020	.....	32,136	18,946	6,366	57,448	.....	.....	112,025	2,214	2,214	.....	710
*Estimated Total U. S. November 21, 1936	3,954	3,954	.....	2,995	.....	31,005	19,393	6,272	56,670	.....	.....	111,762	2,214	2,214	.....	705
U. S. B. of M., *November 28, 1935.	.....	.....	.....	†2,773	.....	27,992	18,175	5,729	51,896	.....	.....	108,921	.....	.....	.....	†599

* Estimated Bureau of Mines basis. † November, 1935, daily average.

PIPE LINE NEWS

85-MILE LINE

Magnolia to move oil to water over new route

Dallas, Texas.—Magnolia Pipe Line Company will eliminate crude congestion experienced for some months in Southwest Texas on its Mirando-Luling-Beaumont 8-inch trunk line by constructing an 85-mile 8-inch welded line from Tilden station, located on the Duval-Karnes County line, to Corpus Christi. Construction work is scheduled to begin on December 10, and the new line is expected to be completed and placed in operation within 45 days. The company will either construct a private tanker loading terminal at Corpus Christi, or utilize one of the existing terminals on a rental basis.

Capacity load has been handled by Magnolia Pipe Line Company's Southwest Texas carrier for many months. The line handles about 16,000 barrels daily from the Mirando district to Luling, and about 22,500 barrels daily from the latter point to Beaumont. Surplus crude runs have been diverted to steel storage tanks.

Two 80,000-barrel capacity crude tanks are to be erected at Tilden station. Present booster equipment at Tilden will be ample to pump oil destined for the Corpus Christi terminal, although an intermediate station may be added later, according to a company official.

SLIGO LINE OUTLET

Shreveport, La.—Atlas Oil Corporation has completed a six-mile pipe line from the Sligo field, Bossier Parish, to Curtis, La., on the Louisiana & Arkansas railroad. The company is buying the oil from United Gas Public Service Company's Skannal F-1, section 23-17n-12w, the only oil well in the field, paying the regular gravity scale. The line is of screw type and is 1½ miles of 6-inch and 4 miles of 4-inch. If and when additional oil wells are completed at Sligo, the company plans to extend its line to its trunk line.

An analysis of the Sligo oil follows: gravity, 39.5; yielding 12 percent of 400.-end point 44 octane gasoline; 18 percent kerosene; 20 percent of 41 gravity gas oil in zero cold test; 48 percent of 31.9 gravity residuum; and 2 percent loss.

EXPAND SYSTEM

Panhandle to Detroit gas line to be enlarged

New York.—Additional pump stations and loops to Panhandle Eastern Pipe Line Company's existing 24, 22 and 20-inch gas system from the Texas Panhandle to Detroit, Mich., is planned during 1937, according to J. D. Creveling, president. This work, together with other smaller projects, are expected to cost $20,000,000.

Expansion of the Panhandle-Detroit capacity is the result of Detroit City Gas Company, city distributors, taking more gas than anticipated. Enlargements wil permit the doubling of the capacity delivering to Detroit, which has 40,000,000 cubic feet daily.

In addition Commonwealth & Southern Corporation, distributors in Michigan, are expected to increase its purchases from Panhandle Eastern Pipe Line Company by 20,000,000 cubic feet daily. Other areas are also seeking additional natural gas.

Natural gas sales by the Panhandle Eastern Pipe Line Company in the three months ended September 30, last, were 5,157,766,000 cubic feet compared with 3,609,904,000 feet a year ago. Sales for the first nine months of 1936 were 17,112,734,000 cubic feet against 11,192,-630,000 feet in the same period of 1935.

LINE EXTENDED

American Liberty serves Talco and Sulphur Bluff

Mount Pleasant, Texas.—American Liberty Pipe Line Company, Dallas, only crude buyer in the Sulphur Bluff field, has expanded its pipe line activities and oil purchases to include the Talco field. The company has acquired R. B. Sanders and J. W. Murchison's Talco gathering

[*Continued on page 62*]

CRUDE OIL PRICE QUOTATIONS

(Figures Represent Basic or Flat Prices—Revised to December 4, 1936)

DISTRICT	Bottom Grav.	Dif.	Top Grav.	Date
Oklahoma-Kansas	28—$0.94	2¢	40—$1.18	1- 9-36
N. and N.-C. Texas	28— .84	2¢	40— 1.08	1- 9-36
Texas Panhandle				
Gray County	34— .86	2¢	40— .98	1- 9-36
Carson-Hutchinson	34— .81	2¢	40— .93	1- 9-36
West Texas				
Andrews, Crane, Crockett, Ector, Glasscock, Howard, Winkler, Upton	29— .76	2¢	36— .90	1-14-36
Pecos	* .85			1-14-36
West Central Texas	28— .84	2¢	40— 1.08	1- 9-36
East Central Texas	28— .91	2¢	40— 1.15	1- 9-36
East Texas	*1.15			1- 9-36
Talco	* .65			11-1-36
Rodessa	*1.10			1- 9-36
Texas Gulf Coast				
Anahuac - Dickinson, Flour Bluff, Turtle Bay	30— 1.04	2¢	40— 1.24	1- 9-36
Conroe	35— 1.24	2¢	40— 1.34	1- 9-36
Tomball, Satsuma	*1.30			1- 9-36
Cleveland	*1.00			1-11-34
†Goose Creek, Hull, Liberty, Orange, Pierce Junction, Barbers Hill, Raccoon Bend, Sugarland, West Columbia, Thompsons, Mykawa, Amelia, Plymouth, Quintana-O'Connor, North Quintana	Below 17— .88	2¢	34— 1.22	1- 9-36
South and S. W. Texas	Below			
Refugio (Light)	17— .88	2¢	34— 1.22	1- 9-36
Refugio (Heavy)	* .95			11- 1-36
Greta (Heavy)	* .95			11- 1-36
Saxet (Light)	*1.22			10- 1-36
Saxet (Heavy)	* .95			11- 1-36
Taft (Heavy)	* .95			11- 1-36
Mirando	* .90			11- 1-36
Pettus	*1.25			1- 9-36
Salt Flat	* .97			1-14-36
Darst Creek	* .97			1-14-36
Placedo (Heavy)	* .90			11- 1-36
Placedo (Light)	* .95			4- -36
Port Lavaca	* .97			
Heyser (Light)	*1.15			11-1-36
Heyser (Heavy)	* .90			11-1-36

* All gravities—flat rate.
† Gulf Coast prices as posted by Humble Oil & Refining Company.

DISTRICT	Bottom Grav.	Dif.	Top Grav.	Date
Arkansas				
El Dorado (Light) and Rainbow	25—$0.78	2¢	40—$1.10	1-10-36
El Dorado East Field and Smackover	* .75			1-10-36
North Louisiana	25— .78	2¢	40— 1.10	1-10-36
Urania	* .97			1-10-36
South Louisiana	Below			
Lockport	19— .92	2¢	34— 1.22	1- 9-36
Iowa Cameron Mds.	19— .82	2¢	34— 1.12	1- 9-36
Lafitte	*1.12			11- 1-36
Rocky Mountain States				
Salt Creek	29— .94	2¢	40— 1.18	1-10-36
Elk Basin	*1.18			7-20-36
Frannie (Light)	* .70			11- 4-36
Frannie (Heavy)	* .62			11- 4-36
Grass Crk., Wyo., (Light)	*1.18			7-20-36
Grass Creek (Heavy)	* .62			11- 4-36
Hamilton Dome	* .57			11- 4-36
Big Muddy	*1.11			1- 9-36
Rock Creek, Wyo.	*1.08½			11- 1-36
Sunburst	*1.15			6- 5-36
Lance Creek	* .90			1- 9-36
Osage	*1.08			
Cat Creek	*1.07			8-25-33
Cut Bank	*1.35			6- 3-36
Pondera	*1.05			9-29-33
Hog Back, N. M.	*1.00			9- 8-33
Lea County, N. M.	29— .76	2¢	36— .90	1-14-36
Mid-West States				
Lima	*1.15			9-18-36
Illinois	*1.23			1- 9-36
Princeton	*1.23			1- 9-36
Western Kentucky	*1.28			11-1-36
Pennsylvania				
Bradford	*2.45			1-13-36
Sw. Pa. Pipe Line	*2.17			1-13-36
Eureka Pipe Line	*2.12			1-13-36
Buckeye Pipe Line	*1.97			1-13-36
Corning Grade	*1.32			9-18-36
Michigan				
Central Michigan	*1.32			9-16-36
Muskegon	*.70-1.00			12-31-32
Canada				
Petrolia	*2.10			9- 9-33
Oil Springs	*2.17			9- 9-33
Mexico				
F.O.B. Tampico (Net)	‡0.895			

* All gravities—flat rate.
‡ Average price, all oil sales being to small refineries.
‡ U. S. Currency, buyer pays tax.

MAJOR PRICE CHANGES

	Penna. (Nat. Tr.)	Mid.-Cont. (36 Gr.)	Calif. (26 Gr.)
June 19, 1933	Up 10	Up 19	.....
June 26, 1933	Up 10	.....	Up 9-12
July 6, 1933	Up 13	Up 10	.....
July 17, 1933	Up 15	.....	.....
July 28, 1933	Up 15	.....	.....
August 11, 1933	Up 10	.....	.....
August 24, 1933	.....	Up 10	.....
August 30, 1933	Up 15	.....	.....
September 6, 1933	Up 10	Up 10	Up 15
September 8, 1933	.....	Up 15	.....
May 1, 1934	Up 10	.....	.....
November 6, 1934	Cut 25	.....	.....
December 6, 1934	Cut 25	.....	.....
January 4, 1935	Up 15	.....	.....
February 4, 1935	Up 15	.....	.....
May 16, 1935	Cut 15	.....	.....
June 26, 1935	Cut 15	.....	.....
July 16, 1935	Cut 10	.....	.....
August 29, 1935	.....	.....	Cut *4
September 6, 1935	Up 5	.....	.....
October 29, 1935	Up 15	.....	.....
November 1, 1935	.....	.....	Up *28
November 18, 1935	Up 15	.....	.....
December 6, 1935	.....	.....	Up *9
January 9, 1936	.....	Up 10	.....
January 13, 1936	Up 15	.....	.....
February 26, 1936	.....	.....	Up ‡5

CRUDE PRODUCTION TAXES

Oklahoma—Five percent of gross value less royalty interest.

TEXAS—2¾ cents or 2¾ percent, whichever is higher.

Louisiana—From four to 11 cents a barrel, depending upon gravity.

Arkansas—2.6 percent of gross market values.

Montana—Two percent of gross value at well and 3/8 of 1c per barrel.

Wyoming and New Mexico—Production tax based upon state and county assessments.

California—.66443 mills per barrel of oil produced and 17.39 cents per acre on proved oil lands.

* All gravities—flat rate.
* Signal Hill 26 gravity.
‡ Seal Beach 26 gravity.

CALIFORNIA OIL PRICES

(All gravities above those quoted take highest prices of that field. Effective February 26, 1936)

Gravity	Signal Hill	Seal Beach Alamitos Heights	Huntington Beach	Inglewood	Playa Del Rey	Olinda Brea Canyon	Athens Rosecrans	Elwood Terrace	Torrance	Richfield	Whittier East Coyote La Habra	Montebello	West Coyote Hills	Santa Fe Springs	New Hall McKittrick Kern River Round Mountain	Mountain View	Midway-Sunset Buena Vista Hills Elk Hills	Lost Hills	Coalinga	Wheeler Ridge
14-14.9	$.80	$.79	$.78	$.79	$.80	$.76	....	....	$.80	$.76	$.76	$.77	$.78	.....	$.70	....	$.70	$.70	$.70	....
15-15.9	.80	.79	.78	.79	.80	.76	....	....	.80	.76	.76	.77	.78	.....	.70	....	.70	.70	.70	....
16-16.9	.80	.79	.78	.79	.80	.76	....	....	.80	.76	.76	.77	.78	.....	.70	....	.70	.70	.70	....
17-17.9	.80	.79	.78	.81	.80	.76	....	....	.80	.76	.76	.77	.78	.....	.70	....	.70	.70	.70	....
18-18.9	.80	.79	.78	.84	.80	.78	....	....	.82	.76	.76	.77	.78	.....	.70	....	.70	.70	.70	....
19-19.9	.82	.79	.82	.87	.84	.81	....	....	.85	.76	.78	.77	.78	.....	.70	$.70	.74	.74	.71	$.70
20-20.9	.85	.79	.85	.90	.88	.84	....	....	.88	.78	.82	.77	.80	.....	.....	.70	.78	.78	.72	.70
21-21.9	.88	.79	.89	.93	.93	.88	....	....	.91	.80	.85	.77	.84	$.78	.....	.73	.82	.82	.74	.70
22-22.9	.92	.82	.92	.96	.98	.92	....	....	.93	.84	.89	.79	.88	.78	.....	.77	.87	.86	.78	.72
23-23.9	.95	.86	.96	.99	1.02	.96	$.84	....	.96	.88	.93	.82	.92	.78	.....	.80	.92	.90	.82	.76
24-24.9	.99	.91	1.00	1.02	1.06	.99	.88	....	.99	.91	.96	.85	.96	.82	.....	.84	.97	.94	.86	.79
25-25.9	1.03	.95	1.03	1.05	1.11	1.03	.93	....	1.02	.95	....	.89	.99	.86	.....	.88	1.01	.98	.90	.83
26-26.9	1.06	1.00	1.07	1.09	1.16	1.06	.98	....	1.05	.98	....	.92	1.03	.90	.....	.91	1.06	1.02	....	....
27-27.9	1.10	1.05	1.11	1.12	....	1.10	1.03	....	....	1.02	....	.96	1.06	.95	.....	.95	1.10	1.06	....	....
28-28.9	1.14	1.10	1.14	1.15	....	1.14	1.07	....	....	1.06	....	.99	1.10	.99	.....	.99	1.15	1.10	....	....
29-29.9	1.17	1.15	1.18	1.18	F.O.B.	1.17	1.12	....	....	1.09	....	1.03	1.14	1.03	.....	1.02	1.20	1.14	....	....
30-30.9	1.21	1.19	1.22	1.21	Pipe	1.21	1.17	F.O.B.	....	....	....	1.07	1.17	1.08	.....	1.06	1.25	1.18	....	....
31-31.9	....	....	....	1.24	Line	1.24	1.22	Ship	Kettleman Hills			1.11	1.21	1.12	.....	1.09	1.29	....	....	....
32-32.9	....	....	....	1.27	....	1.27	1.27	....				1.14	1.25	1.16	.....	1.13	1.34	....	....	....
33-33.9	....	....	....	....	....	....	1.32	$.128		1.19		1.18	1.28	1.20	.....	1.17	1.38	....	....	....
34-34.9	....	....	....	....	....	....	1.37	1.32	....	1.23	....	1.22	1.32	1.25	.....	1.20	.....	....	....	....
35-35.9	....	....	....	....	....	....	1.42	1.35	....	1.27	....	1.25	....	1.29	.....	....	.....	....	....	....
36-36.9	....	....	....	....	....	....	1.46	1.39	....	1.31	....	1.29	....	1.33	.....	....	.....	....	....	....
37-37.9	....	....	....	....	....	....	1.51	1.43	....	1.35	....	1.32	....	1.37	.....	....	.....	....	....	....
38-38.9	....	....	....	....	....	....	1.56	....	....	1.39	....	1.36	....	1.42	.....	....	.....	....	....	....
39-39.9	....	....	....	....	....	....	1.61	....	....	1.43	....	1.40	....	.....	.....	....	.....	....	....	....
40-40.9	....	....	....	....	....	....	1.66	....	....	....	....	1.43	....	.....	.....	....	.....	....	....	....

WORLD DEVELOPMENTS and TECHNOLOGY

Edited by
WM. V. GROSS, Associate Editor

Strike Cancelled

COMPANIES AND WORKERS IN MEXICO DRAW UP PACT

Within four months from November 29, or by March 29, 1937, a new working contract must be drawn up between oil companies operating in Mexico and the labor union of oil industry workers, according to an agreement recently reached by the two.

According to an announcement by Mexico's Secretary of Labor Genero Vasquez, workers will continue as usual on the basis of existing labor contracts until the four-month period terminates.

After the agreement is reached, all oil industry strikes in Mexico in the future shall require an affirmative vote of two-thirds of the employees, a requirement, it is felt in Mexican oil circles, which might have eliminated the recent threatened shutdown.

Another important fact of the secretary's announcement is that any new agreement reached at the expiration of the four months will be placed upon the federal statute books and will be enforced by the government.

The attitude of Lazaro Cardenas, president of the Republic of Mexico, on the action of the oil workers' labor syndicate in calling the strike, is explained in an official telegram from that executive's office in Mexico City to THE OIL WEEKLY, November 30. Translation of the telegram was as follows:

THE OIL WEEKLY,
Houston, Texas.

The President of the Republic recommends that I advise you that before the termination of the time set for the strike he exhorted publicly both the oil companies and the workers that they use every possible conciliatory means toward reaching an understanding, and that any action to the contrary would bring about great national economical disturbances and also be harmful to the interests of both. The federal executive urged both factors that within a stipulated time to be decided on by both that they hold a conference in the interest of formulating a collective contract on the basis that remuneration to the workers be compatible with the economical conditions of the oil industry, and they have accepted this suggestion, cancelling the strike previously announced.

(Signed) RODRIGUEZ,
Private Secretary to
Lazaro Cardenas, President of Mexico.

Oil companies, as well as the three tanker firms, to which the proposition has been made, aver they are willing to converse with labor about a new general contract law for all oil labor, deeming that one such policy would eliminate much trouble for both sides by wiping out numerous individual agreements.

They consider unreasonable, however, such demands as: eliminating many executive positions held by men of long experience and proven ability; expansion of the company paid workers' housing program, which would cost the companies at least 100,000,000 pesos (some $28,000,000 more than the amounts they are now putting up for that purpose; pay demands which in some cases would allow workers as high as $70 for half an hour's service, for example, a welder earning 26.50 pesos (about $7.40) a day receiving 238 pesos ($70) per half hour for working Sundays (a holiday) at a height of 22 feet in a temperature of more than 97 degrees F.; paid vacations that would reduce actual working days to 119 a year; first-class round-trip passage by train, plane or steamer to any part of the world during vacations; triple pay for work on a rest day or one of the 18 demanded paid holidays a year; quintuple pay for work on rest day that coincides with any of these holidays; 100 percent extra pay for working in the rain; double wages for all work in temperatures of 97 to 104 degrees, triple wages for service in heat of 104 to 113 degrees, and no work in temperatures of higher than 113 degrees. The common heat in Mexican oil fields is 97 degrees F. in the sun.

WATCH WEST FLANK

Turner Valley outposts due to test in week

Within the next week it is expected to be definitely known whether a great pool of crude oil exists on the west flank of the Turner Valley structure in Southern Alberta. Three tests which are now in the limestone will prove whether or not the crude pool penetrated by Turner Valley Royalties Company's well is one of small or large dimensions.

These tests are that of Renfrew Royalties, which is approximately 350 feet in the limestone after logging a wet gas showing traces of crude; that of Foundation Royalties well, which is now resuming drilling after setting casing in the limestone potential production horizon, and the Sovereign Royalties test.

Of these three probably the most interesting is the Foundation Royalties test, as it is located more than a mile south of the Turner Valley Royalties Company's 850-barrel crude producer. A strike of crude by the former well will demonstrate that the Turner Valley Royalties Company's crude pool covers a large area underground and is a major oil discovery on the North American continent. Foundation Royalty's test so far has demonstrated that the limestone can be reached at a reasonable depth in an area considered "wildcat territory" only a few months ago.

STRUCTURES FOUND

Fry claims three north of Yorkton in Saskatchewan

W. B. Fry, formerly field manager for Tea Pot Dome Oil Company in Alberta and for the past four years engaged in geological work in Saskatchewan, claims to have discovered three structures in a territory located about 100 miles north of Yorkton, Saskatchewan, Canada. He is reported organizing the Western Exploration Company for the purpose of doing further exploratory work in the territory.

The area covered in Fry's investigations, according to information received from Vancouver, extends 24 miles east into Manitoba and reaches west from its most easterly point 108 miles. The most easterly structure has an elevation of 2400 feet, the center structure an elevation of 1900 feet, and the one on the west, 2000 feet, according to Fry's map. The Vancouver source of information states Fry's map of the area shows a Cretaceous shore line which the geologist claims extends as far north as The Pas and south to Minot, North Dakota, and indicates a huge lake existing in the Glacial period.

EQUATORIAL CONTROL

Socony-Vacuum Oil Company, incorporated, recently sold to a group of New York business men 59 percent interest in Equatorial Oil Company, a company listing as its only asset some 29,000 acres of undeveloped concessions in Colombia. The concession is said to be located along the Magdalena river. The Socony-Vacuum organization had a claim of $203,569 against Equatorial Oil Company which was turned over to purchasers of the 898,008 shares representing the 59 percent.

I. P. A. A. Meeting

[*Continued from Page 12*]

the entire American people. There was nothing in that program which was intended for the benefit of any group. We believed that it was based upon sound, economic principles. During the past year we have seen that program put into effective action. The methods we suggested have not always been followed. But that balance between supply and demand upon which we insisted has been largely realized. We are demonstrating that we are learning our lesson that volume should not be our goal, but that an adequate price should be the test rather than the amount of our production."

Conditions Improved

Roeser spoke favorably of the order being brought about in the domestic industry which he stated to be doing "so much to set its house in order to properly conserve the great natural resource of which we are the custodian, or to make such economies as are possible, and then to pass on to the ultimate consumer his share of the advantages thus gained.

"One of our basic principles," Roeser continued, "is that the domestic petroleum industry is really a unit. There is no material divergence of interest among those engaged in it. Because of this, we have endeavored to follow a constructive program which has been developed steadily through the seven years of our existence. We believe we have demonstrated the value of organized effort. Long ago a great philosopher said: 'History is red with the blood of the unorganized.' Our industrial history is long red with the blood of the independents who were repeatedly sacrificed through the lack of organized solidarity."

Too Much Drilling

Speaking in regard to the drilling of unnecessary wells, Roeser stated that the problem is "equal in importance to taxation and the other problems of the petroleum industry. The drilling of unnecessary wells to produce more oil, is not an immediate serious problem to the future of the oil industry—but it must be retarded. With 350,000 producing wells in the United States, and with spacing rules having no power to restrict drilling, the problem becomes a pressing one. I do not think there should be any restrictions placed against wildcatting, but something should be done to cut down drilling in the field after it has been opened. Price, of course, enters into this. The price would alleviate—for a year or two—but the desire for more money would naturally increase the amount of drilling. Such a condition would not place the producers in this country in a favorable position, as the oil can be bought cheaper than it can be produced. Many of the large companies, doing about 80 percent of the drilling, make the crude price, and low prices cause an automatic passing out of the picture of the independent operator."

Colonel H. B. Fell, executive vice president of the I.P.A.A., in his annual report, cited the new problems and new opportunities and hard work which marked the closing of the seventh year since the formation of the association. "Since our organization," said Fell, "the record of the domestic petroleum industry, in the solution of its problems, has placed it in a position far in advance of other industries in the country."

In conclusion, Fell stated, "One strength of the association during its seven years of life has been that it has consistently taken a positive and constructive position, instead of merely a negative one. We have not opposed so much as we have proposed policies and principles. Our purpose has been to succeed in doing things for the industry, rather than to make theatrical gestures or secure sensational publicity by needless attacks, which often recoil upon themselves.

"Many of the ills of the industry in general have been caused by its own actions. It has hurt itself by urging special privileges and has equally hurt itself by opposing legislation intended to establish fair and equitable conditions. It cannot afford merely to oppose all legislation which may be distasteful or even harmful, but should try to go along with the new movements of this age, shaping them so they will be fair and just to all. If we realize that it is our own government, organized for the general welfare, and cooperate with it, giving it all the assistance we can, we should have no reason to fear it. Such a policy should make the future both safe and prosperous."

A New Economic Era

Russell B. Brown, general counsel at Washington, gave the delegates an insight into the problem of presenting questions to the legislative bodies at the nation's capital

Brown showed the various fields of legislation in which the association has been occupied and the great forward strides which have been made in such matters. Concluding, he said "We are entering upon a new economic era. It does not matter so much whether we like the idea or whether we do not. The fact is there. We cannot operate on the same terms and with the same policies which may have worked five or ten years ago. The social and industrial outlook has changed. If industry adjusts itself to the new conditions, it can make possible a new social order with widely distributed prosperity. If industry is unwilling to make the necessary adjustments, then those forces which are now dominant in the common thought of the day, may sweep away the obstructionists, however well meaning they may be."

Industry Should Handle Affairs

At the luncheon, held in the Chamber of Commerce dining room, the convention was addressed by J. D. Collett, president of the general Mid-Continent Oil & Gas Association, Fort Worth, who gave the highlights of the five point program of the association, and also showed what benefits would be derived from following such a program.

"The welfare of the domestic petroleum industry depends directly upon the maintenance of a proper relation between supply and demand," said Collett. "Excessive production of petroleum results in wasteful depletion of the nation's crude reserves, in price cuts and price wars, and in such demoralization of the whole industry as has, in previous years, caused many bankruptcies; reduced the purchasing power of the oil states and increased unemployment.

"We may as well face the facts," Collett concluded, "and admit that most of our troubles could and should be handled in our own clinics and hospitals. Our industry has been taxed beyond all reason—and out of all proportion to other industries. It is about time for us to put on a real campaign of general and active cooperation within the industry, to cure our own troubles and then protect the rights we gain."

A. J. Crites, manager of Anchor Oil Company, spoke on "Restriction of Imports Essential Part of Any Constructive Program for Domestic Petroleum Industry." Discussion of the address was led by C. P. McGaha, Fain-McGaha Oil Corporation, Wichita Falls, Texas.

Congressman Wesley E. Disney, Tulsa, member of the House Ways and Means Committee, told the delegates that the government was not as unreasonable nor as unjust regarding the tax situation as many individuals think. "The tax collector is not as popular as Santa Claus," said Disney, "but he ought to be. Civilization is built upon taxes. Behind all the taxes which have been levied in this country, whether by Congress or by other bodies having the tax power, there has always been two ideas: first, that these taxes must be equitably levied; second, that these taxes should be for the common defense, or the general welfare.

"The first depletion deductions which were written into law were adopted on February 24, 1919, the so-called Revenue Act of 1918. These allowances were commonly called 'discovery provision.' They were carried in the Revenue Acts of 1921 and 1924. A very complicated system was intended to assure to the discoverer of a new property certain returns of his investment by making these deductible from his income. The machinery to apply this discovery deduction was so costly and so complicated and so slow that Congress, in 1926, adopted a percentage system which has since been followed, allowing 27½ percent of the gross income and limited to 50 percent of the net income. This theory has been continued in the Revenue Acts of 1928, 1932 and is in the current Tax Bill.

"Congress as a whole has recognized the principle that when the oil industry, unlike the show factory, sells its crude oil, it is depleting its own capital, and the receipts from that oil cannot all be accurately classified as income. There have always been those in Congress, however, who have not understood this fairly simple theory. In discussions over the propriety of these depletion allowances, it has sometimes been suggested that these may in time amount to over 100 percent of the actual capital investment.

Conservation of Reserves Needed

The address by Virgil R. D. Kirkham, economic geologist of Saginaw, Michigan, on the subject "Conservation and Stabilization Synonymous in the Petroleum Industry" concluded the papers

presented at the meetings scheduled on Monday.

"Much has been said and written about our oil reserves and there have been numerous shortage and exhaustion scares from 1908 to the present. Although it took the United States 44 years to produce and use its first billion barrels of oil, it has been able to produce and use a billion barrels per year for the last seven years.

"Those who think that oil reserves are not limited," Kirkham said, "and that there is no need for conservation and careful handling of our present production are deceived by large potentials which are quoted for our large flush fields. Colonel E. O. Thompson of Texas, says that the East Texas field can produce 109,000,000 barrels of oil per day. This potential is no doubt accurate and the reserves for this field are based on porosity, yield per acre and bottom-hole pressure, all determined accurately. If this field could be produced at this rate it would be exhausted in less than ten days, whereas this field under the present system of careful handling can be producing as much oil ten years from now as it is today."

Referring to the methods of recovery from old fields, which is being employed in Oklahoma to considerable extent at present, Kirkham said "some fields profit by water drive, but this only applies to special conditions in certain limited areas, and is so expensive that it can be applied only to grades of oil which are already high priced. Repressuring by gas, successful in many areas, cannot be applied in others, and is inexpensive only when the gas is not in demand as a fuel for industrial and domestic use."

His angle on the price structure was that "Oil prices should rise within five years to a point where substitutes can begin to enter the production program, but the high price must exist for about five more years before industry will be assured to the point where the vast capital necessary to build mining, retorting and refining plants will be released for that purpose.

"Cooperative development, producing, and marketing in some sort of a unit scheme brings about higher yield of oil per acre by regulating pressures over the whole pool, preventing unnecessary water encroachment and waste of gas energy which will prevent early lifting costs. Operations under unit control are more likely to have uniform engineering practice and with fewer and better informed engineers, less damage is likely to be done to the pools by poorly handled wells."

Colonel E. O. Thompson, chairman of both the Texas Railroad Commission and the Interstate Compact Commission, discussed the compact before delegates.

After outlining the purposes and accomplishments of the compact, Thompson went ahead to discuss excessive drilling. "Much has been said about the active drilling campaign that has been carried on in the oil states. I would be one of the last persons on earth, speaking as a state official of one sovereign state, to ever attempt to tell another sovereign state how they should run their internal business. The matter regulating production is a matter which is exclusively reserved to the people of each sovereign state.

"The Oil States Compact Commission cannot under the treaty or under the law limit the drilling of oil wells. If too many wells are being drilled, that is a matter to be decided upon by those who are drilling them. I think I may be pardoned for this observation: That some of the very people who have talked long and loud about too much drilling being done are doing a right smart of drilling themselves."

The final speaker of the evening was General Baird H. Markham, of New York, director of the American Petroleum Industries Committee, who spoke on "Taxation."

The meetings Tuesday, December 1, were confined mostly to committee reports. The address by C. M. Boggs, president of the Western Petroleum Refiners Association, on "The Benefits of a Permanent, Assured and Effective Balance of Supply with Demand to the Refining Branch of the Petroleum Industry," was the first paper of the day, and was followed with a discussion led by T. M. Martin, El Dorado, Ark., vice president of the Lion Oil Refining Company.

Texas Meeting

[*Continued from page 10*]

amount of oil in the ground. Unreasonably high fixed charges, of which excessive taxes were a contributing factor, forced this abandonment.

Bridwell stated that figures recently compiled revealed that in some counties in this state oil producers are paying as high as 12 cents per barrel for oil produced, and that the industry as a whole in Texas paid in 1935 an average of 7¾ cents per barrel on production. It was pointed out that the recent session of the Texas legislature in adopting the omnibus bill placed an additional ¾ cent per barrel on each barrel produced where the value is less than $1.00 per barrel, and where the value is greater than $1.00 per barrel, the amount has been increased to more than ¾ cent per barrel. This makes an average of a total of more than 8½ cents per barrel now being paid by the producers of oil in Texas, which amount has been continually growing over a period of years, it was shown.

Taking the over-all picture into consideration, taxes on oil production in Texas have reached the point of exploitation, Bridwell cited. The committeen pointed out that in many instances taxes have been levied on the basis of the ones who pay most readily and complain least, and that it was to be regretted that probably because of this fact a great many of the taxes against the industry could have been averted. Taxation has reached the saturation point, the report pointed out.

Association records show that 17 different independent taxing agencies assessed the producers of crude oil 22 million dollars in ad valorem taxes in 1935, or 20 percent of all the ad valorem taxes paid from all sources in Texas.

Bridwell added in the report that with present tax load and recently added burdens through the federal security program, a continued tax increase threatens the future of the liberal wage policy of the petroleum in-

Pipe Line News

[*Continued from page 58*]

system, including connections to about 20 wells, and is building a 55,000-barrel steel tank immediately east of Talco to store local crude runs and also receipts from the Sulphur Bluff field. A deal is pending whereby this oil may be made available for the crude skimming plant being erected near Talco by Eugene Constantin, Jr., and associates. Otherwise it can be marketed by tank cars, or moved through Humble Pipe Line Company's trunk line to the East Texas field.

Construction work is about 50 percent completed on American Liberty Pipe Line Company's 20-mile 6-inch welded line that will link the Sulphur Bluff field, Hopkins County, with the Talco area, according to D. R. Zachry, manager. This line will be buried about 30 inches below the surface in order to escape low temperatures, as the Sulphur Bluff oil is about 23-24 gravity with a high cold test. Steam coils will be installed in the 25,000-barrel field storage tank, and lines leading from tank to pump station will be equipped with steam jackets. The line will have a capacity of 7200 barrels daily.

SHIP GASOLINE

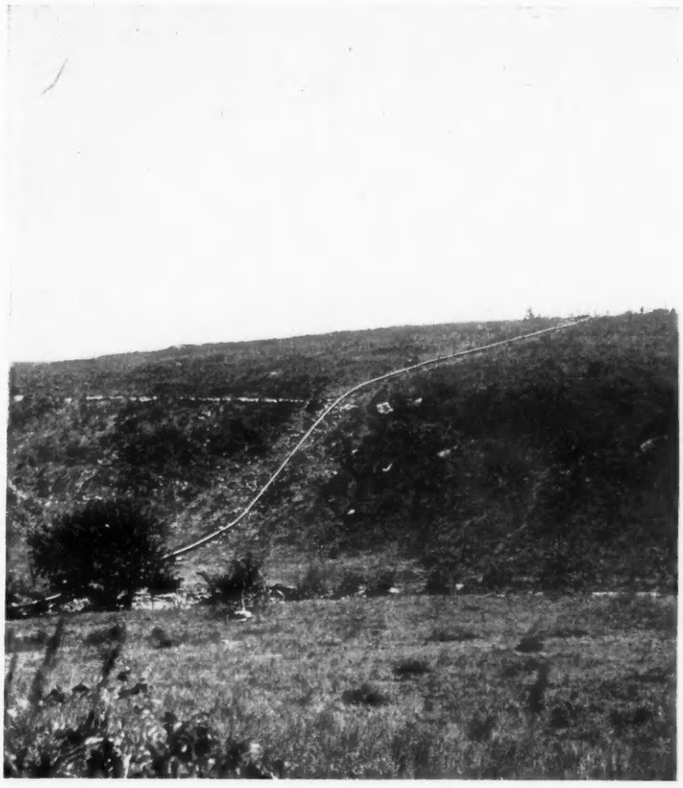
New Kansas system began operating last week

Kansas City, Kansas.—The new 178-mile gasoline pipe line of the White Eagle division of the Socony-Vacuum Oil Company, extending from Augusta to Kansas City, Kansas, carried its first gasoline last week, which reached the northern terminus Saturday, November 28, according to an announcement by C. C. Durkee, superintendent. The line has a capacity of 185 barrels per mile. A booster station is in the process of completion 10 miles north of Emporia.

RECONDITIONED

Dallas, Texas.—Pipe line reconditioning work carried on by Magnolia Pipe Line Company since early last spring has been terminated for the current year. Approximately 450 miles of 8-inch welded line between Burkburnett and Beaumont, and between Corsicana and Ranger were completely renovated. The company has additional work pending along its old system, but will not resume until next spring.

Over hill, over dale



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Pipe Line Trail

. . . you'll also find copies of the

COMPOSITE CATALOG

It's the authority on pipe line equipment

The Gulf Publishing Company Houston, Texas

dustry. Proration has been affected by increased taxes, since restricted well flows have not been paralleled by decreasing cost incurred by taxation.

George C. Gibbons, executive of the association, in a summary of activities, told how the organization under a new organization plan has attained state-wide recognition. He said that the remarkable growth in membership this year was due to the good work of the membership and executive committees, and to the special efforts of W. H. Francis, W. B. Pyron, Jake L. Hamon, Bud Sniffen, and others.

Gibbons pointed out that in some Texas counties oil producers pay as much as 90 percent of all taxes. His figures revealed that in Rusk County oil producers pay 89 percent of the total taxes collected; in Gregg County, 88 percent; in Montgomery County, 84 percent; in Upshur County, 83 percent; and in Pecos County, 80 percent. In other counties oil pays from 70 to 75 percent of all taxes collected. He confirmed the statement that the producing branch of the Texas oil industry is burdened with 17 varieties of taxes.

Raymond Myers, tax attorney for Magnolia Petroleum Company, Dallas, who has headed a committee during the past year which has carefully studied all phases of the federal and state social security acts, presented an interesting summary of outstanding points in these laws and their effect on the Texas oil industry. Myers pointed out that these acts have imposed an additional burden on the Texas oil industry, involving many millions of dollars annually which will be collected by the state and turned over to the federal government.

A highlight of the meeting was the presentation of distinguished service awards to four outstanding Texas oil men, who also have played an important part in the founding and building of the association. J. D. Collett, Fort Worth, independent oil operator and president of Mid-Continent Oil & Gas Association (parent organization), and George A. Hill, president of Houston Oil Company and a vice-president of American Petroleum Institute, presented the awards.

The recipients were J. Edgar Pew, vice-president, Sun Oil Company; Judge William H. Francis, vice-president and general counsel, Magnolia Petroleum Company; Joe S. Bridwell, president, Bridwell Oil Company; and Jack P. Shannon, vice-president, Snowden and McSweeney. The awards consisted of engraved desk clocks with the inscription: "In appreciation of outstanding service to the Texas oil industry—presented by Mid-Continent Oil & Gas Association—Texas Division, 1936."

William H. Francis and Jack Pew accepted the awards, the latter in the absence of his father, J. Edgar Pew, who was unable to attend because of illness. Francis made a very interesting and witty acceptance talk, while Pew's remarks also were very pungent.

Discussion of the heavy loss caused annually by the theft of oil field equipment revealed that well organized rings have been stealing this equipment and disposing of it in other districts. W. B. Pyron, vice-president of Gulf Oil Corporation, stated that the loss of equipment in West and North Texas had been particularly heavy. He indicated that often a company employee works with the thieves, telling them when to visit a lease. He said that vigilance had been rewarded in West Texas, where three men had been sent to the penitentiary and others lodged in jail during the breaking up of an organized gang.

During the discussion a North Texas operator stated that an offer of $100 had been posted for the arrest and conviction of equipment thieves, and that several arrests and convictions had been obtained. In one instance a warehouse full of belts, lighting units and other equipment were found. The gang was broken up and the property mostly returned to its owners. Several smaller gangs have been broken up in North Texas, it was brought out.

W. R. Boyd, Jr., executive vice-president, American Petroleum Institute, addressed the meeting for a short time, and asked the organization to continue its fight against excessive taxes and other abuses.

Dr. Gus Dyer, nationally known economist of Vanderbilt University, Nashville, Tenn., who was scheduled to present some interesting conclusions concerning the south and its new industrial development, was unable to be present at the meeting, due to unfavorable flying conditions that grounded his plane while en route.

The annual banquet was held at the River Oaks Country Club Friday evening. Golf prizes were awarded, and a general fun program carried out.

No business meeting was held Saturday morning. In the afternoon a large number of visitors attended the Rice-S.M.U. football game.

Jake L. Hamon, Dallas, president of the association, presided at all business sessions. The meeting Friday morning was attended by about 200 members and visitors.

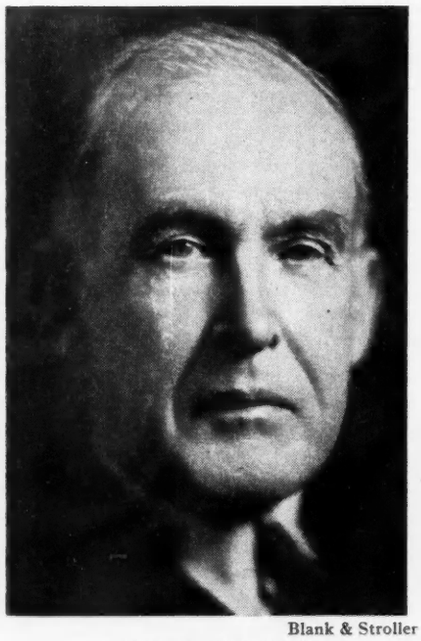
All officers and members of the board of directors were reelected unanimously. Five new directors were elected. They were: McDonald Meachum, Houston; John Cowden, Cowden Drilling Company, Dallas; Harry Bass, Bass Drilling Company, Dallas; George H. Pruter, McAllen; and A. E. Turner, Pan American Production Company, Houston.

Officers of the association are: Jake L. Hamon, Dallas, president; George C. Gibbons, Dallas, executive vice president; Eugene McElvaney, Dallas, treasurer; H. R. Culler, Houston, vice president, Gulf Coast District; L. A. Grelling, Jr., Tyler, vice president, East Texas District; Lloyd Wheelock, Corsicana, vice president, East Central Texas District; R. A. King, Wichita Falls, vice president, North Texas District; E. J. Dunigan, Jr., Pampa, vice president, Panhandle District; J. C. Hunter, Abilene, vice president, West Texas District; Paul W. Pitzer, Breckenridge, vice president, West Central Texas District; Al Buchanan, San Antonio, vice president, Southwest Texas District.

HONORED

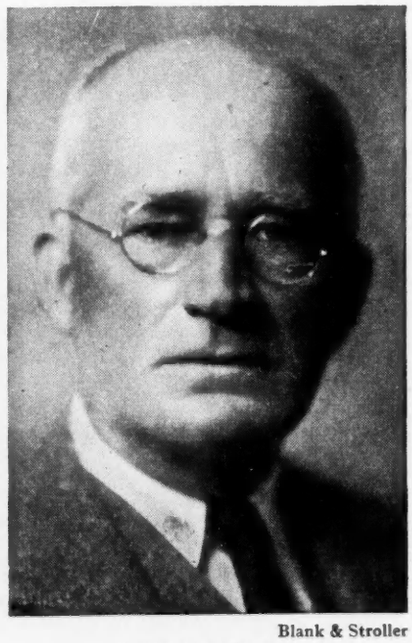
The Mid-Continent Oil & Gas Association of Texas presented service awards for outstanding service to J. Edgar Pew; W. H. Francis; Jos S. Bridwell, and Jack P. Shannon.

W. H. FRANCIS



Blank & Stroller

JACK P. SHANNON



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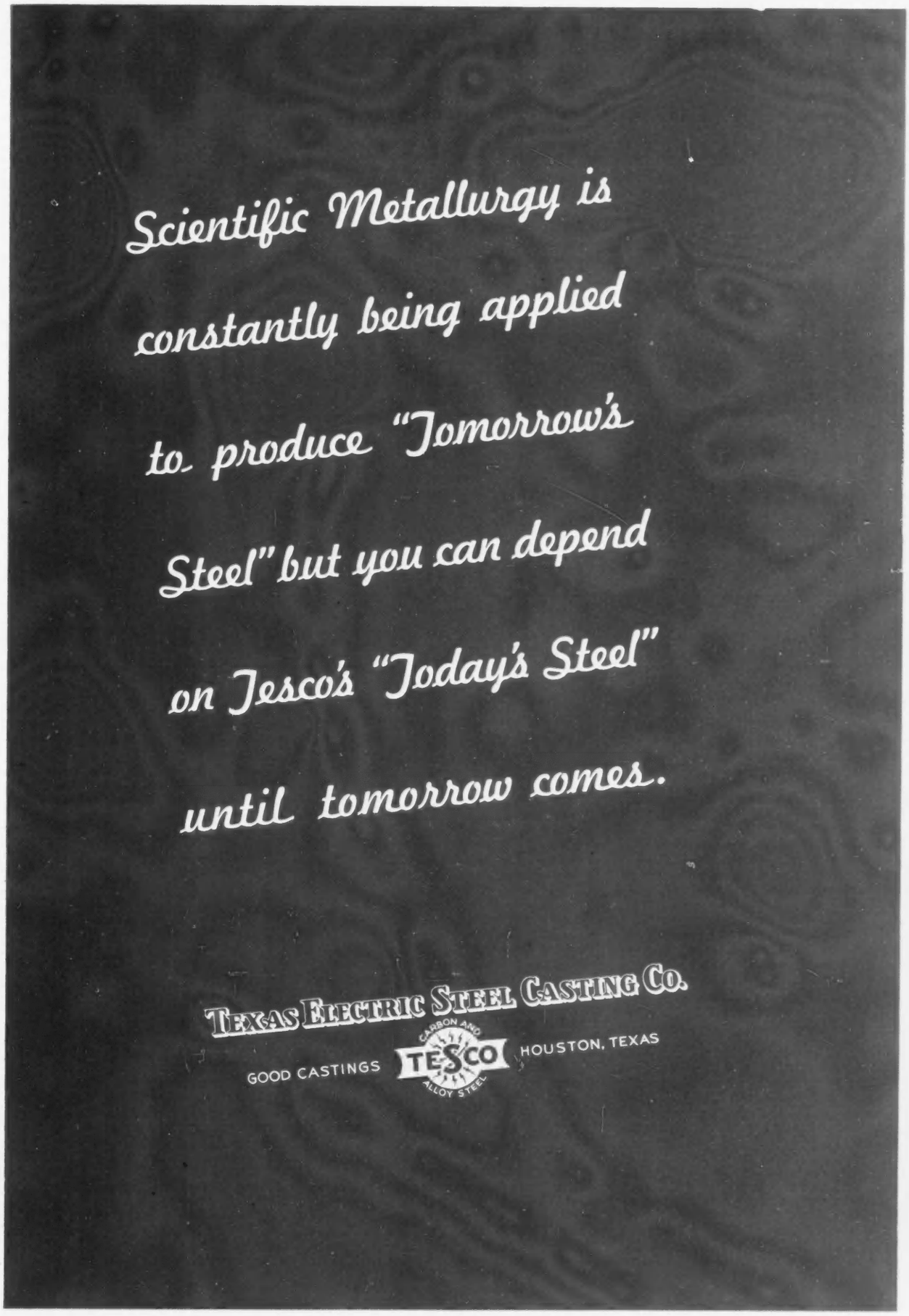
J. EDGAR PEW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GOOD CASTINGS
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HOUSTON, TEXAS

Interesting Wildcats

LINCOLN TEST IS GOOD GAS WELL: LUCIEN MAY EXTEND

WEEKLY STAFF REPORT

Tulsa.—The Fitts field of Pontotoc County, long the most active field in the Sooner state, lost some of the prestige established during the past few weeks when oil men turned their attention toward Lincoln County where a test that looked to be an oil well was finally completed as a gasser. Meanwhile, keen interest was being shown in a test in Noble County, located in the Lucien pool, which appeared to be good for an extension of the area.

The new gasser is Skelly Oil Company's Sporn 1, NW NE SW 21-17n-3e, due south of Perkins in Lincoln County. The well gauged 65,345,280 cubic feet of gas after being plugged back to 4588 feet. The well was originally drilled to 4651 feet in a saturated oil sand, but developed a bad fishing job and has been completed as a gasser. The company has completed cellar and pits and was moving in rig for a second test, Speer 1, SEc NE 20-17n-3e, about one-fourth mile from the Sporn 1.

Shell Petroleum Corporation's Moelling 1, SWc NW 31-21n-2w, due north of the Lucien pool of Noble County, topped the Wilcox sand at 5373 feet, following which a core was taken from 5374 to 5384 feet, which showed gas, mud and oil. Operators were making a survey of the hole. If the well is successfully completed as an oiler, it will extend production in the Lucien pool and may open a new area across the line into the Hayward area of Garfield County.

Carter Oil Company's Warne 1, NEc NW 31-3n-9e, in the area north of Centrahoma in Coal County, topped the Viola lime at 5220 feet and had a show of oil from 5345 to 5352 feet. Operators were coring ahead below 5358 feet.

Fitts Extension

Bromide production was extended one location northeast in the Fitts field of Pontotoc County when Skelly Oil Company's Metropolitan Life Insurance Company 1, SWc 23-2n-7e, flowed 215 barrels of oil in three hours, averaging 70 barrels per hour, following acid treatment. Production was coming from the Bromide at 4370 feet, after sand had been topped at 4330 feet. Operators were to take potential at an early date.

Sinclair Prairie Oil Company's Wooley 7-A, NE SW SW 27-2n-7e, was given a 24-hour potential of 3723 barrels of oil and had 1,725,000 cubic feet of gas. The well flowed 520 barrels of oil in four hours, coming from the Viola lime which was topped at 4006 feet.

Phillips Petroleum Company's Bates 1, SW NE NW 26-2n-7e, flowed 467 barrels of oil in six hours and received a 24-hour potential of 1474 barrels of oil and 2,000,000 cubic feet of gas. The bottom-hole pressure was estimated at 1160 pounds.

The same company's Bates 2, NW NE NW 26-2n-7e, topped the Hunton lime at 3470 feet and after drilling to 3484 feet in the same formation, flowed 608 barrels of oil in eight and one-quarter hours.

Magnolia Petroleum Company's Burris 12-A, SWc NW 27-2n-7e, topped the Hunton lime at 3282 feet and after topping the Sylvan shale at 3594 feet, drilled to 3598 feet, where it was given a potential of 171 barrels of oil the first hour through tubing and had 2,000,000 cubic feet of gas.

Magnolia Petroleum Company's Hardy 8, NE NW NE 30-2n-7e, topped Bromide lime at 4260 feet and drilled to 4318 feet. It received a six-hour potential of 622 barrels of oil making a 24-hour potential of 2178 barrels of oil and 2,225,000 cubic feet of gas.

Aikin Oil Company's Daniels 2, SE NE SW 21-2n-7e, made 663 barrels of oil on a 24-hour potential. Production was coming from the Simpson.

Sinclair Prairie Oil Company's Burris 16, NW NE NW 27-2n-7e, flowed 233 barrels of oil in one hour from the Hunton lime.

Fleetborn Drilling Company's Morin 6, NW SE SE 20-2n-7e, producing from the Simpson sand, was given a potential of 3208 barrels of oil.

E. H. Moore, Inc. et al's Schaurer

To Test Discovery

TILLMAN FIELD DEFINITE: TO EXTEND TUSSEY

Ardmore.—The new development in the area south of Frederick in Tillman County continued to hold the interest of oil men in this and other parts of the state last week, as the test there came in as a producer to prove up the productivity of the area. It overshadowed all other operations in the southern part of Oklahoma, most of which were routine.

The new producer, Indian Territory Illuminating Oil Company and Foster Minerals Corporation's Hatler 1, CSW NE 32-2s-17w, came in to flow by heads every few minutes and was to be tested at an early date. It started bailing early December 1, and the head flows soon followed, but after a short time, the well died. It was reopened later in the afternoon and flowed once more, the fluid in the hole being mud streaked with oil, until it started cleaning itself. The first well to be completed in Tillman County by a major company, Hatler 1 is producing from 3814 feet. A further delay in completing the well was occasioned when a fishing job developed.

Extend Tussey

The north extension of the Tussy pool of Garvin and Carter Counties was again extended this last week when Cox & Hamon's Davis 7, SW NW SE 32-1n-3w, in Garvin County, found a saturated sand from 1315 to 2388 feet. Drilled to 2903 feet, the hole was plugged back and the sand pumped. It made 165 barrels of oil in 24 hours. The extension was to the northwest.

Winkler & McQueen's Davis 4, NW SE SE 32-1n-3w, pumped 40 barrels of oil, and their Davis 3, SW SE SE 32-1n-3w, swabbed 30 barrels of oil.

A show of oil was had at Carter Oil Company's Ivey 2, NW SW SW 33-1n-3w, which was drilling in shale at 2233 feet. The show was had between 2156 and 2159 feet.

Pure Oil Company's Baker 1, SEc NE 7-2n-1e, in the Pauls Valley area of Garvin County, was drilling below 5210 feet after getting a show of black oil at 5175 feet. The oil had a slightly salty taste.

Ed V. Parson's Olson 1, CSW SW 21-2n-8w, in the Marlow sector of Stephens County, was trying to loosen stuck drill pipe at 6083 feet in a shale.

Gulf Oil Corporation's Johnson 8, CSW SW 28-2s-3w, in the Fox pool of Carter County, was running three-inch tubing preparatory to treating with acid. The well has the Hunton lime between 7361 and 7497 feet.

Power Oil Company et al's Lancaster Trust Company 1, CSW NE 10-1s-2e, near Davis in Murray County, was drilling below 3118 feet in the Hunton lime.

Sinclair Prairie Oil Company's Stockton 1, SEc SW 26-6s-2w, in the Oswalt area of Love County, swabbed 133 barrels of oil November 26, and 22½ barrels of oil a day since. Operators were to continue swabbing the well which was bottomed at 6901 feet.

15, NW NE NW 29-2n-7e was opened and flowed 160 barrels of oil the first hour, 120 barrels the second hour, 106 barrels the third hour, 88 barrels the fourth hour, 73 barrels the fifth hour and 56 barrels the sixth hour. On the basis of the six-hour flow, the well was given a potential of 1953 barrels of oil. It was producing from the McLish sand.

Blackstock Oil Company's Kirby 1, SE NE SE 22-2n-7e, received a 24-hour potential of 3982 barrels of oil. The well was producing from the Hunton lime and made 267 barrels the first hour and 183 barrels the second hour.

Small Earlsboro Well

Gulf Oil Corporation's Manuel 1, SE NW SE 35-11n-5e, in the North Earlsboro pool of Seminole County, topped the Wilcox sand at 4646 feet and drilled to 4649½ feet where it had one and one-half bailers of oil from the Wilcox. It was shut down for orders.

Amerada Petroleum Corporation's Tilghman 1, NEc NW 2-10n-5e, was completed in the Wilcox sand for 100 barrels of oil. The company's Davis 1, SWc NE 3-10n-5e, was on production at 100 barrels from the Hunton lime.

Fleetborn Drilling Company's Tanner 1, NWc SE 28-17n-5e, south of Cushing in Lincoln County, started spraying oil and flowed an estimated 4,000,000 cubic feet of gas and was shut in. Early in the week, the test drilled cement to the bottom and was showing gas through approximately 700 feet of fresh water. The following day the well topped the second Wilcox sand at 3953 feet and drilled to 3995 feet before it opened.

A new test in the Dutcher sand pool, in the Mannford area of Creek County, was started by J. E. Crosbie, Inc., and will be in SWc 20-18n-9e. It is ready to spud, and is located near the discovery well which was a 300-barrel well drilled by the Curtis Oil Company and others.

GEOLOGICAL TRIP

Ardmore.—A two-day trip to study the Pennsylvanian section of north central Texas will be the last function of the Ardmore Geological Society for 1936. The party will be conducted by M. G. Cheney and F. B. Plummer, and will assemble at the Crazy hotel in Mineral Wells on Friday, December 4 where dinner will be served and the complete itinerary studied before the tour is started. The trip will be concluded December 6.

OKLAHOMA Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
CARTER COUNTY—		
Carter Oil, Junior Perkins 1, nw nw se 4-1s-3w	*	2805
Maxine Oil, Brady 4, cwl se ne 5-2s-2w	6	1705
Samedan Oil, Higgins 14, nw sw ne 7-2s-2w	52	2507
Skelly, Walker 1, ne nw sw 9-2s-2w	*	2185
Moore 7, se nw nw 17-2s-2w (pb 2080)	¶12½ & 13	2590
Cox & Hamon, Wesley 2, nw sw sw 3-4s-3w	*	1071
Twin State, Cochneuer 6, sw ne se 8-4s-3w (otd 1049)	*	1074
CLEVELAND COUNTY—		
Stauffer Pet, Bruce 1, ne se ne 20-10n-2w	lcn.	abd.
COAL COUNTY—		
Sinclair Paririe, Culver 1, ne ne sw 16-1n-8e	*	5764
CREEK COUNTY—		
E. J. Koury, Bruce 1, sw sw sw 15-17n-9e (otd 1326)	¶3	1375
Abraham et al, Holeman 2, se ne ne 24-17n-9e	¶1½	1125
HUGHES COUNTY—		
Manahan Oil, Dixon "C" 5, nw ne ne 12-9n-8e	180	1745
Texas Co., Meadors 1 "B", csw nw 4-8n-10e (pb 3071)	¶2½	3175
KIOWA COUNTY—		
Lykins et al, Aetna Life 1-A, se se se 9-5n-16w	*	851
Travis & Scott, Doyle 1, ne se sw 21-5n-17w	*	931
LOGAN COUNTY—		
Stanolind-Amerada, Johnson 1, nw nw se 20-18n-4w	*	6436
McINTOSH COUNTY—		
Stanolind-Ramsey, Tiger 1, nw nw sw 13-9n-15e	*	4993
NOBLE COUNTY—		
Phillips & Shell, McCaughtry 3, ne se ne 21-23n-2w	¶140 & 1800	4256
OKFUSKEE COUNTY—		
Chapman, Cudjo 4, sw sw se 25-10n-8e	504	1754
Phillips, Wigton 1, nw nw sw 20-10n-9e	*	1826
Chapman, King "B" 3, nw sw sw 30-10n-9e	70	1737
Gulf Oil, Cohee 8, ne nw nw 31-10n-9e	¶2 & 206	1781
Stekoll, Johnson 8, ne w se 2-10n-11e	75	1678
Champlin Ref., Thompson 1-A, sw sw nw 7-13n-8e	*	4100
OKLAHOMA COUNTY—		
Helmerich & Payne, Diamond 1, sw sw se 15-12n-3w (otd 6441)	¶2 & 50	6478
OKMULGEE COUNTY—		
Reneau-Black et al, Field 3, sw se nw 16-14n-11e	¶6 & 75	2443
OSAGE COUNTY—		
Gillespie & Son, 5, nw se ne 5-20n-12e	7	1390
Elm Oil, 6, cwl e½ nw 17-20n-12e	*	1482
Platter, 12, nw sw nw 30-22n-9e	*	1015
Link Oil, 8, sw ne nw 4-22n-12e	125	1666
Opal, Twyman, John Taylor 2, sw se nw 4-23n-11e	¶2½	1565
Phillips Pet., Lookout 2, ne se nw 9-24n-7e	80	2701
Lewis & Texas Co., R. Kenny 9, se ne sw 9-24n-7e	12	2689
McMahan & Price, 1, ne ne ne 31-24n-11e (pb 1660)	*	1944
Magnolia & Empire, Bonton 3, se se nw 23-26n-6e	274	2949
Lewis Prod., Callihan 9, ne nw sw 23-26n-6e (pb 2975)	58	2985
Carter Oil, 8, nw nw se 44-26n-6e	¶½ & 245	2910
PAYNE COUNTY—		
Wood Oil, Shannon 1-A, nw se sw 23-18n-3e	20	4079
PITTSBURG COUNTY—		
Utilities Gas, Bascom 2, nw se se 10-7n-18e	¶18½	2022
PONTOTOC COUNTY—		
Continental, Monroe 2, se sw nw 12-1n-7e (pb 4752)	77	4793
Simpson 4, se sw ne 12-1n-7e	¶2 & 4329	4720
Sinclair Prairie, Wooley "B" 4, sw se sw 22-2n-7e	¶2½ & 2421	4375
Amerada, Smith 4, nw se nw 28-2n-7e (pb 4167)	3192	4285
Carter Oil, Hardin 11, nw ne sw 30-2n-7e	2352	3585
Mexhoma Oil, Butler 1-A, ne se ne 21-5n-8e	*	1210
POTTAWATOMIE COUNTY—		
Sinclair Prairie, Gammon 5, sw sw nw 30-7n-5e (otd 4283)	10	4421
Smith, Brandenburg 1, sw sw sw 34-8n-4e	40	4167
Vierson, Jones "A" 7, se nw nw 11-6n-6e	¶3½	2405
SEMINOLE COUNTY—		
Pickens et al, Cully 1, se nw ne 31-6n-8e	*	2830
Vierson, Strother 1, nw se se 24-7n-6e (pb 2230)	*	3259
Commercian Drlg, Toche 2, se se se 8-9n-7e	140	3482
Hays Drlg, Youngblood 1, ne nw ne 19-9n-8e	*	2678
Amerada et al, Tillman 1, ne ne nw 2-10n-5e	895	4637
Davis 1, sw sw ne 3-10n-5e	¶1 & 81	4425
Sinclair Prairie, Cully 3, nw ne nw 13-5n-7e (pb 4310)	*	4482
STEPHENS COUNTY—		
George Pace, Payne (Fee) 12, ne nw nw 28-2s-7w	35	1707
Texas Co., Bohanan 4, ne nw nw 15-3s-5w	52	1462

*Failures; †Junked; ¶Million cu. ft. gas.

GOOD MOORE WELLS
Completions have big initial; Edmond extends

Oklahoma City. — Drilling activity remained quiet in the Oklahoma City sector of the state during the past week, best report coming from the Moore pool of Cleveland County. Although some drilling was being carried ahead in the Oklahoma City field proper, the area contiues to become less and less active.

Sinclair Prairie Oil Company's Strauss 1, SWc 22-10n-2w, latest producer in the Moore pool of Cleveland County, flowed 700 barrels of oil an hour and 40,000,000 cubic feet of gas. The well bailed down 1800 feet after being drilled to 7273 feet, and production followed.

The same company's Holmes 1, NEc 28-10n-2w, came in last week to make 500 barrels of oil in one hour from the Simpson sand zone, and was being deepened. It was drilling at 7270 feet in the Wilcox sand, and reaming down preparatory to washing in. Later in the week after being opened and flowing at the rate of 1000 barrels of oil for 15 minutes, the well bridged over the following day. Operators were cleaning out and were to take a potential about December 5.

Edmond Extended

A report from the Edmond pool of Oklahoma County stated Blackstock Oil Company's Tegtmeyer 2, SE NE SE 36-14n-4w, had extended the pool to the west one-half mile after flowing 500 barrels of fluid, including 150 barrels of oil load, following acidization with 12,000 gallons. The test topped the dolomite at 6698 feet and was producing from 6690 feet in the same formation.

Ohio Oil Company's Johnson 1, SEc 25-14n-4w, was bailing 3000 feet of water in the hole, thought to be coming from the Simpson sand. It was shut in.

A new producer in the Oklahoma City field was Black Gold Petroleum Company's Hays 1, in Section 27-12n-3w, which had the Wilcox sand at 6285 feet. After a three-hour flow test, the well was given a potential of 1442 barrels of oil for 24 hours.

60 SOONER WELLS

Tulsa.—Oklahoma operators stepped up operations during the past week to complete 60 wells, an increase of 7 over the previous week. Thirty-one were for oil with an initial production of 17,476 barrels of oil. Six gas wells produced 31,500,000 cubic feet of gas and there were 19 dry holes with only 4 abandoned locations.

A total of 55 first reports were made. Pontotoc County led with 18. Its nearest competitor was Okfuskee which had 7. Creek and Okmulgee Counties each had 5, and there were 4 each for Carter and Osage Counties. Garvin County had 3, and Pottawatomie and Tulsa Counties each had 2. There was 1 each for Comanche, Grady, Muskogee, Seminole and Stephens Counties.

More Extensions

SILICA, WARKENTINE AND TRAPP FIELDS ENLARGED

WEEKLY STAFF REPORT

Wichita.—Kansas oil fields remained active as usual last week, although no outstanding strikes were reported. The bulk of the drilling developments in the Sunflower state consisted of extensions to several already established oil producing pools.

The Trapp pool of Russell County was extended to the northwest when Skelly Oil Company's Neidens 1, NW SW NE 32-15s-13w, tested for 2621 barrels of oil, making it the second largest producer in the pool. The well had the Siliceous lime at 3325 feet, and after coring from 3324 to 3331 feet, recovered seven feet of saturated lime. Seven-inch casing was cemented at 3235 feet, and the flow was had after treatment with 3000 gallons of acid. The test is located on a 240-acre tract.

Gulf Oil Corporation's Schmidt 1, NEc SE 6-20s-10w, extended the Silica pool of Rice County one-quarter mile south. Located in the biggest oil field in Kansas, Schmidt 1 topped the Siliceous lime at 3337 feet, and after drilling to a total depth of 3342 feet, filled 2000 feet with oil in one and one-half hours. The test is two locations south of production at the southeast edge of the pool. Operators were to take a potential at once.

Western Kansas Oil & Refining Company et al's Hertzler 1, CNW NW 13-23s-2w, extended the Warkentine pool of Harvey County one-half mile to the south when it had showings making it appear to be the largest producer ever drilled in that sector. The test encountered the pay at 2984 feet in the chat, and flowed approximately 210 barrels of oil in one hour before it was shut in for tankage. Top of the chat was found at 2958 feet.

May Extend Graber

Possible extension of the Graber pool of McPherson County was seen last week as Continental Oil Company's Goering 4, SE SW SW 29-21s-1w, began fiilling with oil after drilling to 3263 feet in the Hunton lime. The extension would be to the west one location. Operators were to acidize the well before making a production test.

Wolf Creek Oil Company et al's Reiling 1, NWc SW 4-12s-17w, extended the Shutts pool of Ellis County by making 354 barrels of oil from the Lansing lime at 3350 feet. The flow followed acid treatment.

Shell Petroleum Corporation's Whipple 2, NW SW NE 15-26s-9w, in the south end of the Lerado pool of southwestern Reno County, swabbed only 59 barrels of oil and three barrels of water in five hours through tubing early in the week. Following acidization, the well was completed for 4178 barrels of oil, the production coming from the Viola lime at 4144 feet. The well is an east offset to Empire Oil & Refining Company's Mauck 1, which was recently completed for 6674 barrels of oil. One-half mile to the east, the Mary Whipple 1 received a potential of 8974 barrels of oil.

The same company's Soenken 1, CNW NW 10-19s-9w, northeast of production in the Beyer sector of the Chase pool of Rice County, showed 105 feet of black sulphur water and five feet of drilling mud on a 16-minute drill stem test at 3309 feet in the Siliceous lime. After the hole had been tested with an electrical well logging device, operators decided to plug back and test a showing of oil had in the Kansas City lime.

Sinclair Prarie Oil Company's Gentry 1, NEc 1-33s-15w, southwest of Medicine Lodge in Barber County, found a show of oil at 4880 feet in the Mississippi lime after acidizing with 2000 gallons. The well, which was a failure in the lower horizons, may plug back and perforate casing at the Kansas City lime, where previous showings were had on a test.

Skelly Oil Company's Kipp 1, SEc NE 27-25s-14w, northwest of Pratt in Stafford County, succeeded in shutting off water encroachment which broke in from behind the casing. The well was drilling ahead below 4150 feet in the Viola lime with nothing showing.

Gulf Oil Corporation's Murphy 1, SWc 18-19s-19w, in the Doran pool of Rice County, was shut down for orders at 3304 feet in the Siliceous lime. The hole filled 250 feet with fluid, 40 feet of which was oil after being shut in for 12 hours. It is a diagonal east offset to the discovery producer in the field.

E. B. Shawver has completed Erker 9, NEc SW 33-31s-1w, in the Wellington pool of Sumner County. It flowed 1495 barrels of oil during a potential test, production coming from the chat at 3677 feet, following acidization.

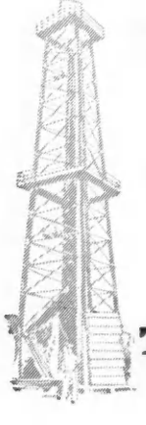
C. L. Carlock et al's Drew 1, NWc SW 5-20s-10w, in the Chase pool of Rice County, was given a potential of 1450 barrels of oil from the Siliceous lime at 3316 feet.

In the Schartz pool, Mid-Continent Petroleum Corporation completed Wood 2, NWc 4-20s-10w, for 1746 barrels of oil from the Siliceous lime at 3331 feet, following acidization.

The Texas Company's Schartz 2, SEc 33-19s-10w, located on the discovery lease of the Schartz pool, was completed for 2245 barrels of oil from the Siliceous lime at 3326 feet. The flow was had following acidization.

Equity Oil & Gas Company et al's Cross 2, SW NW NE 21-13s-12w, southwest of the discovery well in the Bunker Hill pool of Russell County, was completed for 792 barrels of oil from the Lansing lime at 3035 feet following acidization. Discovery well of the pool was completed for only 274 barrels of oil, coming from the Oswald.

The new producer in Chautauqua County, Union Gas Company's Wilson 1, NEc 14-33s-12w, some 15 miles northeast of Sedan, topped the Simpson sand at 1819 feet and flowed 63 barrels of oil in three hours.



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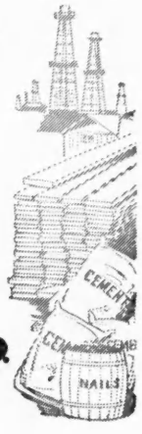

KANSAS
Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
BUTLER COUNTY—		
Simpson Oil, Deblem 1, sw sw sw 11-26s-6e	*	3292
Hutchinson O&G et al, Westfall 1-A, se sw se 13-27s-3e	*	3040
Solomon, Church 1, sw ne se 8-28s-5e	*	200
COFFEY COUNTY—		
Harrigan Bros., Wiley 1, se se ne 14-23s-14e	162	1634

Company, Well and Location	Init. Prod. Bbls.	Depth
COWLEY COUNTY—		
Lloyd, Frost & Study, McKinley "B" 2, ne se nw 33-31s-3e	2887	3265
Dowling & Modern et al, Barnett 1, nw nw se 18-32s-5e	*	855
Craft et al, Whitson 1, ne ne ne 20-33s-4e	*	50
ELLIS COUNTY—		
Margay Oil, Bemis "A" 6, se ne se 16-11s-17w	2124	3368
Wolf Creek Oil, Dreiling 1, nw nw sw 4-12s-17w	376	3350
Harris & Haun, Karlin 1, ne ne ne 10-13s-17w (pb 3400)	632	3550
Derby Oil, Copeland 1, nw nw se 26-14s-19w	*	3795
Gulf Oil, Klaus 1, sw sw ne 26-14s-19w	*	3823
GREENWOOD COUNTY—		
Loch & Cooper, Milner 1, se ne se 12-24s-12e	2	1652
Lucille Oil, Teichgraber 6, cnw ne 11-25s-8e	5	2337
O. V. Paul, Bryden 1, ne se se 36-25s-8e	30	1272
Sheedy et al, Lindemood 1, csw sw 7-25s-13e	*	1620
LINCOLN COUNTY—		
Graham et al, Smiley 1, ne nw nw 26-10s-9w	*	300
MARION COUNTY—		
Harwood Oil et al, Mott 1, ne ne ne 2-17s-4e	*	2361
McPHERSON COUNTY—		
Shawver, Kaegi 2, ne nw nw 21-19s-1w	227	3434
Ohio Oil, Decker 7, nw ne ne 20-21s-1w	642	3347
RENO COUNTY—		
Olson Oil, Adkins 5, sw nw sw 35-23s-4w	¶8	3317
R. J. Wallace, Tucker 1, ne nw sw 20-24s-4w	2088	3390
RICE COUNTY—		
Mid-Continent, Wood 2, nw ne ne 4-20s-10w	1746	3331
Stanolind, Specht 6, sw nw ne 6-20s-10w	1228	3329
Stanolind, Specht 7, se sw ne 6-20s-10w	1751	3317
Tatlock, Berscheidt 12, nw se nw 6-20s-10w	1765	3274
Berscheidt 13, ne se nw 6-20s-10w	1411	3298
Sinclair Prairie, Specht 4, nes se se 20-20s-10w	110	3293
ROOKS COUNTY—		
L. C. D. Drlg. et al, Westhusin 1, cne se 11-9s-17w	504	3243
RUSH COUNTY—		
Sheedy, Bison 1, sw sw sw 35-16s-17w	*	3700
RUSSELL COUNTY—		
Aylward et al, McAllister 1, ne ne se 9-12s-13w	*	3568
Hartman & Blair, Guerney "B" 1, se se se 23-14s-14w (otd 2978)	239	3020
Skelley, Guerney 2, sw se sw 23-14s-14w (otd 3034)	212	3062
Alva Billings, Herbel 1, se se sw 26-14s-14w	616	3025
Hartman & Blair, Boxberger 1, ne ne ne 26-14s-14w (otd 4012)	359	3017
W. I. Southern, Inc., Sellens "A" 1, se se sw 30-15s-13w	1152	3266
Shell, Michaelis 4, se sw ne 31-15s-13w	2411	3273
SCOTT COUNTY—		
Watchorn & McNeeley, Spangler 1, cnw sw 23-20s-33w	*	5509
STEVENS COUNTY—		
Interstate Prod., Buddenberg 1, cnw 26-33s-39w	¶18	2655
Stevens County O&G Brown 1, cnw 27-34s-38w	¶7	2810
SUMNER COUNTY—		
Stelbar, Earker 14, se sw sw 33-31s-1w	1755	3676
Continental, Rothrock 1, nw nw nw 4-32s-1w	1089	3669
WOODSON COUNTY—		
McClintock et al, Vostrez, 2, sw sw ne 23-23s-14e	*	1675
Bell & Alexander, Kash 2, sw nw nw 26-23s-14e	*	1634

*Failures; †Junked; ¶Million cu. ft. gas.

Tulsa.—According to an announcement by J. I. Taylor, treasurer of the Margay Oil Company, the board of directors have declared a dividend of 25 cents a share on outstanding stock of the corporation of 160,000 shares, effective December 1.

To Drill 16 Tests

LEA COUNTY PROJECTS ARE OFFSETS TO 5 PRODUCERS

WEEKLY STAFF REPORT

Hobbs, New Mexico.—Authorization of 16 new tests offsetting producing wells in five Lea County areas lessens the chance for a letup in drilling towards the end of the year. The county was credited with 12 completions the past week, including six for the Monument field.

The largest completions for the week were scored in the southeast portion of Monument area. The Texas Company's J. W. Cooper 2, C NE NE 5-20s-37e, gauged 114 barrels oil per hour natural flow through open tubing from lime at 3760-3900 feet. Shell Petroleum Corporation's Cooper 2-B, an east offset, flowed 395 barrels of oil in three hours through open tubing after using 2000 gallons of acid in lime at 3899 feet, and Cooper 3-B, C SW NW 4-20s-37e, flowed 460 barrels oil in three hours natural through open tubing with 1,500,000 feet of gas daily. It is bottomed at 3899 feet, or 334 feet sub-sea.

Reduces Heavy Gas Flow

Prolific gas flow developed by Atlantic Refining Company's Crutchfield 1, C NE SE 32-19s-37e, near Monument townsite, while trying to complete at 3914 feet, or 340 feet sub-sea, after using 3000 gallons of acid, was almost completely eliminated by installing tubing packer. The oil flow was likewise reduced, but the well gauged 301 barrels initial, with about 1,000,000 feet of gas.

Humble Oil & Refining Company's State 1-D, C SE NE 20-19s-37e, situated on the northeast edge of the field, responded to treatment of lime at 3996 feet with 1000 gallons of acid with an hourly flow of 31 barrels of oil through a ¾-inch choke. The company has made location for M. E. Laughlin 3, C SW SW 4-20s-37e.

Amerada Petroleum Corporation's E. S. Adkins 1, C SW SW 5-20s-37e, has encountered considerable difficulty with cavities and gas blowouts following the loss of rotary returns. A new cavity found at 3830 feet has been cemented off with 600 sacks of cement.

Repollo Oil Company has started operations on Bordages 3, NE NW SW 8-20s-37e, and Bordages 4, NE NW NW 8-20s-37e. Other new Monument tests include Gulf Oil Corporation's W. E. Hatchett 1, C NW SW 33-19s-37e, and Phillips Petroleum Company's Patsy-Britt-Conoco 1, C NW NE 18-20s-37e.

Rushwold Oil Company, Dallas, and Continental Oil Company's E. E. Carter 1, C NW NE 30-20s-39e, about 8½ miles southeast of the Hobbs field, logged top of anhydrite at 1616 feet, with an elevation of 3559 feet, and was drilling in the salt series. It is reported to be checking about normal on structure with wells in the Hobbs area. Jim Brown and Huskey Reynolds' Parcell-Conoco 1, C NW SE 8-21s-38e, located about 3¾ miles to the south, was drilling below 3000 feet, having logged base of salt at 2875 feet, with an elevation of 3573 feet.

Two Jal Dolomite Disappointments

Two disappointments for the Jal dolomite lime area made their appearance last week. Continental Oil Company and The California Company's Sholes 1-A-24, C SE SE 24-25s-36e, southeast outpost for the North Jal field, tested sulphur water at 3165 feet, and again at 3312-15 feet, with an elevation of 3098 feet. The hole was deepened to 3396 feet, and will be plugged back to gun-perforate casing to make a gasser. The Texas Company et al's C. W. Shepherd 2-A, C SW NW 6-26s-37e, flowed a high percentage of sulphur water with oil when given an extended production test through tubing at 3078 feet, or 102 feet sub-sea. It will be deepened.

Eunice Completions

In the Eunice lime area, Continental Oil Company's State 4-D, C SW SE 15-21s-36e, flowed 15 barrels oil per hour natural through tubing choke from lime at 3800-3890 feet, and State 5-D, two locations to the north, tested 25 barrels per hour on drill stem test at 3700-3755 feet, and has landed 5½-inch pipe to complete. Two States Drilling Company and Southern Petroleum Exploration, Incorporated, have started operations on McQuatters 1, C NW SE 11-21s-36e, and McQuatters 2,

NEW MEXICO Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
LEA COUNTY (Eunice Field)—		
Continental Oil Co., State 4-D-15, c sw se 15-21s-36e	700	3889
Shell Pet. Corp., State 2-F, c lot 13 6-21s, 36e	2500	3851
TP Coal & Oil Co., State 2, lse 2, c nw sw 5-22s-36e	165	3960
LEA COUNTY (South Eunice Field)—		
Conoco-California Co., Elliott 1-A-15, se se se 15-22s-37e	25	3640
LEA COUNTY (East Jal Field)—		
Repollo Oil Co., Robt. Jamison 1, sw se ne 21-24s-37e	600	3494
Stanolind, P. J. Langlie 1, c se ne 15-25s-37e	55	3418
LEA COUNTY (Monument Field)—		
Atlantic Ref. Co., Crutchfield 1, c ne se 32-19s-37e	301	3914
Humble, State 1-D, c se ne 20-19s-37e	1500	3996
Shell, J. W. Cooper 2-B, c nw nw 4-20s-37e	3500	3899
J. W. Cooper 3-B, c sw nw 4-20s-37e	4000	3899
The Texas Co., J. W. Cooper 2, c ne ne 5-20s-37e	3000	3900
H. T. Mattern 4, c ne sw 20-19s-37e	750	3982

*Failures; †Junked; ¶Million cu. ft. gas.

C SE NE 11-21s-36e. Shell Petroleum Corporation made locations for State 2-G, C Lot 12, 6-21s-36e, and State 2-J, C SW SE 32-20s-37e. Other locations include Skelly Oil Company's State 1-G, C NW SE 30-20s-37e; Gulf Oil Corporation's Campbell 2, C NE SW 7-21s-36e; and Continental Oil Company et al's Meyer 17-B, C Lot 1, 4-21s-36e.

In the South Eunice sandy-lime area, Continental Oil Company and California Company's Elliott 1-A-15, SEc 15-22s-37e, flowed 25 barrels of 34 gravity oil daily through 9/64-inch choke after using 3000 gallons of acid in lower pay at 3603-3640 feet. It did not make a commercial producer when given nitro shot at 3500-3556 feet. Skelly Oil Company has started operations on J. V. Baker 2, C NE NW 27-22s-37e. In the North Eunice area, Geo. F. Getty Oil Company is starting up on D. C. Hardy 2, C SW SE 20-21s-37e, while completion work is in progress on Hardy 1, an east offset.

Sam C. Yingling, Dallas, et al, have started operations on Dan Vaughan-Conoco 1-A, C SE NW 3-24s-36e, and Vaughan-Conoco 1-B, NE NE NE 9-24s-36e, both offsetting producers in the north portion of the Cooper field.

Repollo Oil Company's Robert Jamison 1, SW SE NE 21-24s-37e, offsetting an outpost producer in the East Jal sandy-lime area, gauged 504 barrels oil in 20 hours through open tubing when given potential test at 3494 feet. Stanolind Oil & Gas Company's P. J. Langlie 1, C SE NE 15-25s-37e, flowed 55 barrels of oil the first day and 47 barrels the next day through open tubing after successfully shutting off water. The hole was plugged back from 3418 feet to 3381 feet then redrilled to 3409 feet. The Texas Company's J. D. Young 1, SE SE SE 5-24s-37e, a semi-wildcat, drilled through the sandy-lime section, then plugged back to 3589 feet. The well swabbed and flowed 124 barrels oil while cleaning out after an 80-quart nitro shot at 3547-3569 feet.

WEST CENTRAL TEXAS

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
BROWN COUNTY—		
L. Ehrlinger et al, Armstrong 4-A..	*	1460
Kewanee O&G Co., Hickman 28....	10	1323
W. W. Ports et al, Barnes 1.....	*	1178
CALLAHAN COUNTY—		
R. R. Groce et al, Shelton 1.....	*	825
Wittmer O&G Properties, Ross 1...	*	1466
EASTLAND COUNTY—		
N. A. Moore et al, Holcomb 6.....	*	1864
States Oil Corp., Holcomb 1.....	*	1830
PALO PINTO COUNTY—		
P. J. Quinnlivan et al, Elgin 1.....	*	1453
SHACKELFORD COUNTY—		
Butler & Horn, Morris-Buie 7.....	150	1565
Crawford-Groover & Rhodes, Morris-Buie 4	75	1580
D. H. Dorn et al, Green 2.....	*	1290
Eppenauer Drl. Co., Morris-Buie 5..	*	1610
Fain-McGaha Oil Corp., Davis 1, sec 30	*	1680
Fortex Oil Co., Dyer 1.....	*	1307
R. F. Gilman et al, Davis 1.....	*	637
Hix Oil Co., Swenson 1.....	35	1653
J. D. Meredith et al, Grimes 1.....	*	270
Owens & Green, Davis Bros. 1.....	*	1732
Pitzer-West & Humble, DeLafosse 3	*	4410
Putman Supply Co., Morris-Buie 9..	125	1608
Reliance Oil & Roy. Co., Nail 5-B...	*	1604
Roeser-Pendleton, Inc., Dawson 14..	180	1607
Roeser-Pendleton & Humble, Morris-Buie 6, sec 191.....	70	1608
Sandefer & Thompson, Alexander 2-B	91	1665
Tannehill Pet. Co., Newell 1, sec 2	*	1440
Ungren & Frazier, Alexander 2.....	124	1655
Weona Oil Co., McCassland 10-B...	7	781

*Failures; †Junked; ¶Million cu. ft. gas.

Activity Assured

WEST TEXAS CRUDE QUOTAS MEAN CONTINUED DRILLING

NORTH & WEST TEXAS

WEEKLY STAFF REPORT

Midland, Texas.—Restoration of crude production quotas to near former levels by the Texas Railroad Commission effective December 1 safeguards the widespread development program being carried on in West Texas. The district was threatened with curtailment of activity because of the comparatively low available per well in the most popular drilling centers. There were 47 completions in the district last week, including six dry holes.

Search for production in Ordovician lime series in Crockett County will be renewed within a few months on the strength of an obligation assumed by Superior Oil Company of California in obtaining new leases on a portion of its large block on the Todd and Massie ranches. The company proposes to start operations before next March on a 7500-foot test on the Robert Massie tract, C NE¼, Section 55, Block UV, G. C. & S. F. Ry. Survey, about one mile southeast of Stanolind Oil & Gas Company et al's Todd 1, which was abandoned in March, 1933, at 8041 feet after logging favorable oil and gas showings in the upper section of the Ordovician. Owners of leases in the area are forming a unit plan similar to that used in drilling the first test.

Seminole Discovery Holds Up

Amerada Petroleum Corporation et al's S. J. Averitt-Ohio 1-A, first oil producer for the Seminole structure, Gaines County, was holding to a steady flow of pipe line oil with a low gas/oil ratio after using acid twice in lower oil pay at 5006-29 feet. Prolific gas production from the upper lime was successfully excluded by installing tubing packer at 5206 feet. The well gauged 188 barrels of 33.2 gravity oil with 232,000 feet of gas during 24 hours, according to mid-week report, flowing through one-inch choke. It is carrying 25 pounds back pressure on tubing and 50 pounds on casing, but the latter is filled with oil produced above the packer. The well is also capable of making 500,000 feet of sweet gas daily through bradenhead from Yates sand at 3060 feet. Current output of the well is more than ample to yield its proration quota, and in all probabilities no further effort will be made for the time being to boost the oil flow. No new operations have been announced for the area, but several tests are in prospect.

Means Field Extended

Production in the Means field, Andrews County, was extended about one mile to the southwest through the completion of Sun Oil Company's J. S. Means 1-B, C SE NW Section 22, Block A-35, PSL Survey, flowing 728 barrels of oil through casing after 330-quart nitro shot at 4448-4535 feet. Top of first saturation was logged at 4485 feet, with an elevation of 3162 feet. On this marker the well is about 21 feet higher on structure than the nearest producer. Geo. F. Getty, Incorporated, has started operations on R. H. Lindley-Conoco 1, C SW SW Section 8, Block A-46, PSL Survey, located north of the Deep Rock pool, Gaines County. Continental Oil Company farmed out this drilling site. R. H. Gill and J. L. Greene are credited with having made additional acreage sales towards financing a 5000-foot wildcat to be drilled near center of NE¼ Section 15, Block A-45, PSL Survey, Andrews County.

Ray Albaugh et al's John Robinson 1, northwestern Dawson County wildcat that has been in process of completion for more than a month, is showing for a small pumper from broken lime zone at 5038 feet, or 2953 feet below sea level. A late gauge credits the well with pumping 15 barrels of oil and three barrels water in six hours. A nitro shot or acid treatment may be resorted to as a means of

TEXAS PANHANDLE

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
CARSON COUNTY—		
Empire O&R Co., M. Sims 2-A....	*	3660
GRAY COUNTY—		
Champlin Ref. Co., D. J. McLaughlin 13	188	3015
Dyke Oil Co., L. C. McConnell 6...	663	3282
King Oil Co., Sailor 3	582	3245
Magnolia, C. S. Barrett 4.....	368	3280
W. P. Latham 5	30	3190
HUTCHINSON COUNTY—		
J. M. Cox et al, M. E. McCormick 1, sec 18	*	3227
Phillips Pet. Co., E. T. Timms 3....	612	3091
Skelly Oil Co., C. Merchant 1.....¶23.9		3000
Timms Robinson Oil Corp., J. W. Moore 4	465	3128
MOORE COUNTY—		
Shamrock O&G Co., J. T. Sneed, Jr. 1 .....¶33.4		3250
Terry Thompson 1 .....¶36.1		3397
POTTER COUNTY—		
Canadian River Gas Co., Lee Bivins 18-A .....¶18.7		2720
WHEELER COUNTY—		
Corite Oil Co., O. W. Stewart 2...	347	2086

*Failures; †Junked; ¶Million cu. ft. gas.

stimulating the oil yield without deepening.

Henderson Area Contributes Flush

Henderson dolomite lime area, Winkler County, was the outstanding contributor of new production for the district the past week. Atlantic Refining Company recorded three completions on a single lease November 25. This company's Fred Leck 6-B averaged 185 barrels of pipe line oil per hour for 6 hours through open 2½-inch tubing from regular lime at 3070 feet. Leck 4-B flowed 2688 barrels oil initial through tubing from lime at 3070 feet, and Leck 5-B made 2558 barrels initial under the same restrictions at 3080 feet. Sinclair Prairie Oil Company's Fred Leck 4-A, occupies a less favorable position on the narrow reef type structure, and flowed 887 barrels initial through tubing from lime at 3101 feet. The gas/oil ratio was 597 feet per barrel.

WEST TEXAS

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
ANDREWS COUNTY (Means Field)—		
Sun Oil Co., J. S. Means 1-B	728	4535
COCHRAN COUNTY (Wildcat)—		
Honolulu Oil Corp.-Cascade Pet. Co., Duggan 1	288	5098
CRANE COUNTY (Wildcat)—		
Big Basin Pet. Co., Jax Cowden 1	*	3473
ECTOR COUNTY (Foster Field)—		
Schermerhorn Oil Corp., J. L. Johnson-Amerada 1	528	4171
ECTOR COUNTY (Judkins Field)—		
Skelly Oil Co.-Republic Prod. Co., McKenzie 2	300	3700
ECTOR COUNTY (North Cowden Field)—		
Atlantic Ref. Co.-Skelly-Tide Water, Blakeney 2-A	404	4250
Stanolind, J. M. Cowden 37	193	4277
HOWARD COUNTY—		
Sinclair Prairie, G. M. Dodge 44	357	2820
JONES COUNTY—		
Humble, J. M. Alexander 1	*	2213
C. J. Kleiner et al, Birt Fields 1	*	2219
PECOS COUNTY (Netterville Field)—		
Tex-Mex Pet. Corp., fee 1	*	2378
PECOS COUNTY (Torborg Field)—		
Paul Childress, Tr., Smith-Sinclair 11	62	355
PECOS COUNTY (Wildcat)—		
Bahan & Rhodes, H. E. Bonebrake 1	*	2230
UPTON COUNTY (Gulf-McElroy Field)—		
Gulf Oil Corp., Crier-McElroy 22	266	2878
J. T. McElroy 141	538	2996
UPTON COUNTY (McCamey Field)—		
Cardinal Oil Co., E. Wooley 1-B	528	2163
Gulf, G. H. Rogers 2	574	2237
Humble, A. A. Reese 3	240	2630
Int'l Pet. Corp., J. F. Lane 7	325	2225
WARD COUNTY—		
Abell Bros. et al, R. O. Potts-Humble 5	41	2390
Gulf, Hutchings 60	2296	2750
C. S. Messenger et al, V. Cole 2	193	2311
Reno Oil Co., Hartage-Wilson 3	172	2557
Richardson Oils, Inc., J. H. Hathaway 10	3162	2635
Richardson, Oils-Magnolia, O'Brien 13	407	3100
WINKLER COUNTY (Brown- Altman Field)—		
Illinois Oil Co., Abilene Central Bank-Conoco 4-B	1476	3148
WINKLER COUNTY (Gulf-O'Brien Field)—		
Gulf, G. W. O'Brien 75	77	3185
WINKLER COUNTY (Halley Field)—		
Skelly Oil Co., S. M. Halley 15	1056	2881
WINKLER COUNTY (Henderson Field)—		
Atlantic Ref. Co., Fred Leck 4-B	7000	3070
Fred Leck 5-B	8500	3080
Fred Leck 6-B	10,000	3070
Champlin & Bass, Inc., Fred Leck 1	7500	3070
Joe C. Maxwell, Inc., L. Daugherty 1	1000	3088
Sinclair Prairie, Fred Leck 4-A	1500	3101
Uscan Oil Co., L. Daugherty 1	1500	3088
WINKLER COUNTY (Keystone Field)—		
The Falcon Co., McCutcheon-Humble 5	135	3600
WINKLER COUNTY (Sayre Field)—		
Harry Adams et al, J. B. Walton 5-A	1500	3103
Humble, N. R. Colby 9-A	796	3015
J. F. Howe 17	1658	3000
Illinois Oil Co., Abilene Central Bank-Conoco 5-A	1930	3100
Magnolia, J. B. Walton 40	713	2927
J. B. Walton 41	385	2926
Shell, T. G. Hendrick 6-I	¶3 &	157 3071
Sinclair Prairie, J. B. Walton 10-B	1412	2975
J. B. Walton 5-C	1258	2975
TP Coal & Oil Co., Daugherty 15	1166	2956
WINKLER COUNTY (Wildcat)—		
Emperor Oil Co., J. T. Cross 1	*	1210

*Failures; †Junked; ¶Million cu. ft. gas.

ORDER YATES SURVEY

Austin.—A survey of bottom-hole pressures, gas oil ratios and potentials in the Yates field has been ordered by the Texas Railroad Commission.

This survey was provided in an order issued by the Texas Railroad Commission last week. The order recited "There being under consideration applications by said operators for redistribution of the allowable production in the Yates field" . . . this survey is deemed necessary.

The gas-oil ratio survey is to be made first and is to be completed as quickly as possible. Following this the wells are to be shut in for 48 hours after which bottom-hole pressures shall be taken in each well.

After the completion of this survey, a potential test in each well shall be made.

The only application before the Commission that has been made public is that of the Marathon Oil Company, which has contended that allowables for wells on several small tracts in the field, are reasonably high and that the only method of reducing these allowables is to effect a redistribution of the total field allowable. It appeared likely that it might be necessary to shut down most of the wells in the field for some time.

The order provides that after bottom-hole pressures have been taken on a well "all wells in the field shall remain closed and sealed." Commission engineers were unable to make any estimate of the time required to make such a survey because they did not know how many men and pressure bombs would be available for the work.

Austin.—In an effort to eliminate waste of gas in the Panhandle the Texas Railroad Commission has issued a new order redefining sour gas and eliminating water well exemptions. Henceforth, Panhandle wells in the Osborne area and in Moore County will be prorated on the same basis as wells in other parts of the district. The commission found water well exemptions in Moore County wasteful and found that excessive gas-oil ratios have resulted from the high rates of flow.

In the Osborne area a similar condition existed.

The orders establishing these areas as separate pools were rescinded.

Effective January 1, the commission will place on the gas schedules all wells producing with a ratio above 100,000/1. This rule will be applied to wells making water as well as to those making pipe line oil.

A better system of metering gas from Panhandle gasoline plants has been provided by this order. This will include meters on incoming and outgoing gas, as well as convenient arrangements for measuring gas blown into the air.

NORTH TEXAS

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
ARCHER COUNTY—		
L. T. Burns et al, Benson 3-A, sec 1397	*	958
Kimbell & Bohner, J. D. Carpenter 14, sec 89	15	1057
L. I. Lyons et al, H. O. Prideaux 1	*	775
Rathke Oil Co., G. P. Meade 2, blk 39	10	1454
Shappell Oil Co., J. T. Richardson 1, blk 18	*	1352
J. W. White & King Oil Co., K. & & K. 14-A, blk 42	*	646
COOKE COUNTY—		
Anderson-Kerr Pet. Co., Ed. Wilson 4	195	2013
Burk Roy. Co., J. C. Talbot 3	*	1826
Denver Prod. & Ref. Co., Ed. Wilson 10	220	1985
Homarado Oil Co., Ed. Wilson 3	10	1955
Leo Portman et al, Bruhlmeyer 2	75	2113
Ripps & Ungerman, W. L. Johnson 2	217	1922
Schermerhorn Oil Co., F. J. Hess 5	15	840
JACK COUNTY—		
Brazos River Gas Co., J. A. Jones 3, sec 7	35	2351
R. D. Compton Oil Co., C. C. Henderson 1-A	*	350
W. W. Connell et al, Moore 2	15	380
N. B. Crenshaw et al, M. B. Cook 1	309	2959
Dalton & Wales, R. E. Hilburn 1	*	803
K. E. Edmonds et al, Hunt 3, sec 2	5	470
Josaline Producing Co., R. H. Eatherly 1	490	2997
L. A. Long et al, W. Walden 1	*	3360
W. P. Luck et al, D. C. Clayton 2	525	2990
H. W. Rose et al, M. Covington 1	*	380
Taubert & McKee, R. H. Eatherly 1	504	3007
THROCKMORTON COUNTY—		
Canyon O&G Co., L. D. Lilly 1, sec 279	*	417
WICHITA COUNTY—		
Geo. W. Cooper et al, Foster-Allen 1, sec 1	*	2100
Duke, Kent & Felty, C. Guyer 1	5	155
King Oil Co., Waggoner Est. 2-1	35	1036
W. B. Omohundro et al, S. P. Gibson 4-B, blk 302	128	1922
Floyd Pace et al, Foster-Allen 11, sec 1	25	884
Pois & Schluz, Foster-Allen 1-D, sec 2	*	2182
Geo. Proctor et al, Foster-Allen 1-B	*	1028
Sussex Oil Co., Saunders 2, blk 7	*	1904
Wilson & Ligon, Foster-Allen 5, sec 1	*	1305
YOUNG COUNTY—		
Anderson & Hunt, E. W. Hunt 1, sec 240	*	1115
Bohner & Gilmore, Prideaux 5-A, blk 15	*	583
Brazos River Bed Oil Co., State-Colquitt 2	¶20 & 1500	3925
L. T. Burns et al, R. D. Andrews 7, sec. 1399	*	951
W. F. Collins et al, G. W. Terrell 1, sec 248	*	741
Daniel Prod. Co., Gathright 2, sec 1801	*	868
J. H. Davis et al, A. C. Casey 1, sec 1486	*	625
Fred Foote, Jr. et al, J. M. Nall 1, sec 1997	*	678
Hamilton Pet. Co., J. K. Jeffery 18, sec 53	40	850
Hinson & Tidewell, S. R. Jeffery 1, sec 469	*	4200
C. A. Johnson et al, N. Wilburn 1, sec 1588	*	1458
Kimmell, Lee & Co., H. O. Prideaux 2	12	667
J. H. Kleiner et al, Graham 17, sec 2248	*	715
Panhandle Ref. Co., Prideaux 10	5	751
Prideaux 12	2	771
Prideaux 13	*	791
Pitzer & West et al, E. T. Dollins 1, sec 606	450	3942
Wooten & Wilson, S. L. Scott 4, sec 345	35	750
W. H. Yeargin et al, Belknap Coal 10, sec 22	8	705

*Failures; †Junked; ¶Million cu. ft. gas.

Extension Fails

TALCO TEST ABANDONED IN WATER SAND AT 4348 FEET

WEEKLY STAFF REPORT

Mount Pleasant, Texas. — Irregular sand conditions in the southwest extension area of Talco field counteracted the normal structural position occupied by Neversuch Oil Company's F. A. Jones 1, located in the most westerly northwest corner of the O. James Survey, Franklin County, and the test was abandoned in water sand at 4348 feet, or 3998 feet sub sea. Top of Georgetown lime was logged at 3513 feet, and first Paluxy series at 4310 feet. It is less than 1000 feet east by south of the same company's E. L. Phillips 1, which pumped 97 barrels oil initial from sand series at 4295-4330 feet, with an elevation of 350 feet. This producer and two others immediately west are making 14-15 gravity oil, or about 10 degrees lower than the field average. Pipe lines can not move the oil on cold days.

Talco received the third largest production boost given any single field on the December proration schedule issued by the Texas Railroad Commission. The field was given an allocation of 10,189 barrels, or a gain of 4265 barrels, and this quota made it possible to increase the individual well allowable from 75 to 85 barrels daily, besides taking care of recent completions. Production will be practically the maximum set forth in the order, as the field is credited with having averaged 9045 barrels daily from 129 wells during the week ending November 30.

The commission has taken no action on the proration hearing held November 21 to adopt rules for Talco. Testimony submitted by engineers for one of the majors estimated the probable productive area from the Paluxy at from 8400 acres to 10,000 acres, with an ultimate crude recovery of 105,000,000 barrels. Doubt was expressed by several witnesses as to whether the densely drilled areas, particularly a portion of the Talco townsite, will produce sufficient oil to amortize well costs and pumping expense due to the rapid water intrusion.

The extreme east end of production at Talco contributed a flowing producer when Humble Oil & Refining Company's A. P. Kirkpatrick 1, NWc 44.91-acre lease and A. J. Fry Survey, gauged 188 barrels potential through a quarter-inch choke from Paluxy section at 4218-4365 feet, with an elevation of 362 feet. Seven-inch pipe was cemented near bottom, then gun-perforated opposite the saturated sand zones, a practice now followed on the majority of the completions. Magnolia Petroleum Company's W. H. Crawford 7, situated in a sparsely drilled area to the south of the townsite, developed salt water shortly after swabbing and flowing 12 barrels per hour on completion gauge from Paluxy at 4185-4315 feet. The hole has been plugged back to 4303 feet, or 3952 feet sub sea.

Sulphur Bluff Extension

Extension of Sulphur Bluff field, Hopkins County, two locations to the west was assured late last week when D. S. Hager-W. P. Luse and Russ Petroleum Company's J. E. Worsham 7 logged Paluxy pay zone at 4479-4517 feet, with an elevation of 427 feet. The partnership's Worsham 5, northwest offset to their discovery well, is reported to have started flowing 100 barrels oil per hour on preliminary gauge from Paluxy at 4432-4521 feet, with an elevation of 437 feet. Saturated sand was logged at 4456-72 feet and 4483-4521 feet. The rig has been skidded to drill Worsham 6, and the other rotary will be moved to drill Jeff Worsham 1. Hager and Luse's J. G. Reynolds 1, SEc 200-acre tract, was drilling below 3200 feet, and Empire Oil & Refining Company's Worsham 1, was drilling near the Woodbine horizon. F. D. Jones Drilling Company, Dallas, is reported to have started moving in to drill a test on the J. K. Pierce 225-acre lease obtained from Gulf Oil Corporation.

CORING PALUXY

Rains County test will go to Rodessa horizon

Tyler, Texas.—Humble Oil & Refining Company's O. L. J. Easter 1, first Trinity test on the Emory geophysical prospect in northeastern Rains County, was due to start coring late last week for the top section of the Paluxy sand series, having progressed to 5750 feet, where the log showed lime and shale formation. This wildcat has drilled a normal thickness of Georgetown lime, which was topped at 5003 feet, or 4565 feet below sea level, and is contracted to go to the lower Glen Rose, or the equivalent of the Rodessa oil and gas zone, if the Paluxy fails to yield commercial production. Easter 1 is located in the northeast part of a 39.76-acre tract in the R. Hotchkiss survey, 4½ miles east of Emory.

Superior Oil Company of California is planning to move in its own heavy rotary rig within two weeks to drill an exploratory test on its Quinlan block in southeastern Hunt County. Location has been tentatively assigned to the P. B. Paul 183-acre tract, Mary Latham survey, 5 miles northeast of Quinlan, and adjacent to the Mexia-Talco fault plane. The company has expended approximately $250,000 exclusive of the cost of a 6500-foot, or lower Trinity test, in making its first bid for deep production in East Texas. A cash bonus of $175,000 was paid early last spring to W. A. Moncrief, Eddie Showers, W. L. Pickens and Ed. Hyde for full interest in about 4500 acres out of the latter's 9000-acre block, and also assumed obligation to drill a free test with the independent group carried for a half interest. Superior Oil Company later drilled more than a score of shallow core tests; expended a large sum for geophysical surveys, and enlarged its lease holdings with additional purchases near Quinlan.

Cherokee and Henderson Counties were each credited with wildcat failures in the Woodbine sand the past week. In the former county, General Crude Oil Company's Mrs. S. L. Stockton 1, SEc 103-acre tract, S. Jarboe survey, 3 miles east by north of Mount Selman, cored white water sand at 4297 feet, with an elevation of 475 feet. Cosden Oil Corporation's Mrs. E. P. Miller 1, Thomas Chaffin survey, Frankston prospect, logged water sand at 5136-5155 feet after entering the Woodbine section at 4898 feet, with an elevation of 451½ feet. It will be deepened to 5400 feet to comply with depth requirements assumed in obtaining a contribution towards the test from Magnolia Petroleum Company.

SECOND TEST GOOD

Wildcat in Jones County gauges 13 barrels hour

Abilene, Texas.—R. B. Farris, Leland Fikes et al's Guitar 2, second producer for the new Jones County pool opened last October, gauged 13 barrels of oil per hour after using 1000 gallons of acid in saturated lime zone at 1993-2012 feet. The well is bottomed in shale at 2014 feet.

Thos. D. Humphrey, Dallas, et al's Guitar 1, offset to the discovery well, was preparing to complete late last week after cementing pipe on top of the lime horizon.

EAST TEXAS

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
JOINER AREA—		
Atlantic Ref. Co., H. L. Griffin 12 (80-ac)	4000	3723
Chicago Oil Co.-Great Eastern Oil Co., Mayfield Alford 4-A (22½-ac)	1000	3594
Mayfield Alford 6-A (22½-ac)	960	3598
Cockburn & Boase, Inc., A Green 9 (43.89-ac)	6000	3808
E. T. DeArman & Skeen, Crook 7 (56-ac)	350	3598
W. H. Gant-Garvin & Wegener, Goldberry 9 (253.45-ac)	*	3587
Gulf Oil Corp., S. B. Stone 14 (107.58-ac)	500	3790

Company, Well and Location	Init. Prod. Bbls.	Depth
Humble, E. S. Holt 8 (51.43-ac)	7600	3814
Kangerga 53-A (33¼-ac)	6000	3691
J. H. & I. W. Wooley 32 (201.53-ac)	8000	3676
Hunt Oil Co., R. W. Fair 24-A (136.72-ac)	8000	3678
R. W. Fair 30-C (211.4-ac)	10,000	3619
H. S. Moss & Pete Urschel, H. L. Griffin 3 (20-ac)	400	3739
Royal Pet. Corp., E. L. Pinkston 6 (27-ac)	160	3570
Stanolind-Pure, W. H. Siler 70 (983.53-ac)	1800	3620
Texas Canadian Oil Corp., A. Kersh 6 (101.76-ac)	700	3648
KILGORE AREA—		
J. G. Beard et al, J. S. Elder 13 (72.16-ac)	300	3545
Central Commercial Oil Co., King-Shell 7 (44.4-ac)	3200	3711
Gulf, C. E. Christian 31-C (277.85-ac)	7100	3716
Humble, J. N. Peterson 43 (222.1-ac)	10,500	3594
Jones-Shelburne, Inc., Crim Mercantile 11 (67.4-ac)	300	3702
Roger Lacy et al, J. F. Reynolds 10 (22.89-ac)	3500	3562
Willie Mack et al, Wash Dickson 3 (20-ac)	75	3731
Quad Corp., B. Duncan 8-B (40-ac)	7500	3616
Shell, D. Carr 6 (45.15-ac)	7300	3430
Sinclair Prairie, J. E. Lawther 23 (317.68-ac)	3400	3573
A. A. Lockhart 24 (130.59-ac)	8600	3665
Snowden & McSweeney Co., R. H. Laird 23 (133.1-ac)	11,000	3628
Stanolind, W. H. Smith 5 (111.4-ac)	100	3733
Sun Oil Co., Grant Reese 18 (124.22-ac)	7700	3699
J. Marcus Woods et al, J. H. Gill 3 (7.3-ac)	4200	3624
LONGVIEW AREA—		
Barnett Pet. Co., G. C. Cannon 4-B (40-ac)	5000	3647
J. C. Burnett et al, State Excess 1 (16/100-ac)	1200	3579
Deep Rock Oil Corp., B. Jones 21 (61.12-ac)	11,000	3637
FHE Oil Co., C. Christian 1	3400	3665
Magnolia, W. E. Jones 18 (116¼-ac)	8500	3665
G. W. Tate 9 (67.58-ac)	8800	3455
Monday Oil Co., T. B. Harris 7-C (60.85-ac)	6600	3482
P. H. Pewitt et al, J. H. Sobey 2-B (15-ac)	2400	3679
P. F. Rutledge & C. W. Coller, P. Todd 16 (155-ac)	1200	3732
Selby O&G Co.-Lewis Prod. Co., Snavely 14 (118½-ac)	7000	3561
Sinclair Prairie, J. W. Akin 14-A (96.6-ac)	10,400	3610
I. Isley 16 (100-ac)	10,500	3525
E. L. Smith Oil Co., E. L. Cabiness 4 (83-ac)	360	3627
Southland Drl. Co.-United E&W Co., O'Byrne 31 (304-ac)	1500	3712
Sun Oil Co., J. T. Loden 15 (100.58-ac)	9200	3677
Tide Water Associated, Arch Davis 20 (113-ac)	10,000	3575
E. M. Nettleton 18-a (148¾-ac)	5500	3463
Sam K. Vierson et al, Victory 5 (25-ac)	3200	3605
FRANKLIN COUNTY (Talco Field)—		
Lucey Pet. Co. et al, Crawford 10 (25.23-ac)	1450	4300
NAVARRO COUNTY (Corsicana-Powell Field)—		
W. L. Thompson & Sitton, J. B. Bush 2	¶11	1171
TITUS COUNTY (Talco Field)—		
B. G. Byars et al, W. T. Edwards 1 (30-ac)	1200	4301
Constantin & Co., Leake 1, lot 2, blk 39	377	4354
GMW Oil Co., Talco Townsite 4-A, lot 1, blk 42	360	4350
Talco Townsite 18-A, lot 2, blk 35	240	4370
Hollandsworth Drl. Co., J. M. Morris-Atlantic 2 (20-ac)	700	4367
Howze Oil Co.-Randy Moore, L. Blackburn 1 (16 2/3-ac)	130	4290
Humble, A. P. Kirkpatrick 1 (44.91-ac)	600	4361
Monnig Dry Goods Co. 2 (114-ac)	800	4297
Humble & Ned B. Morris, Jr., W. H. Hughes 2 (6½-ac)	306	4318
Magnolia, C. M. Carr 3 (70-ac)	483	4335
FANNIN COUNTY—		
Valeria Oil Co., G. D. Galloway 1	*	3527
FREESTONE COUNTY—		
Roger Steward & Velvet Oil Co., E. H. Beauchamp 1 (60-ac)	*	4403
HENDERSON COUNTY—		
Wm. McDougal, Tr., et al, Elvira Price 1	*	4124

*Failures; †Junked; ¶Million cu. ft. gas.

Corpus Area Busy

6300-FOOT SAND AT SAXET GETS DRILLING CAMPAIGN

WEEKLY STAFF REPORT

Corpus Christi.—More field extensions and new sands featured another active week in the Corpus Christi sector of the Gulf Coast. The 6300-foot sand area of the Saxet field, Nueces County, which has come into prominence during the past few weeks with several oil producers, is the center of a rapidly increasing drilling campaign.

Three wells cored the sand and were in process of completion, while three more were on or near the 6300-foot level late in the week. Paul Benedum's Frank Harmon, northwest of the oil wells in the 6300-foot sand, was deepened from the 5800-foot sand and attempted completion in the lower horizon, where it blew out and ran wild. The well caught on fire, destroying the derrick and damaging the rig. It was anticipated that the well would be brought under control due to the fact that it was cased. The hole is bottomed at 6318 feet, 48 feet in sand.

Third Taft Sand Opened

Humble Oil & Refining Company's J. W. Mayo 10, in the Taft field of San Patricio County, has opened the third producing horizon for that field. The well was originally abandoned at 4937 feet after testing salt water and oil in the deep sand. It then was plugged back and casing perforated in the sand at 4351-75 feet, where it flowed 241 barrels per day through ¼-inch choke under tubing pressure of 50 pounds and casing pressure of 375 pounds. The same sand was tested in several other wells, but this is the first to complete at that level.

Over in Victoria County, Magnolia Petroleum Company's Willie Beck 1, 4½ miles northwest of Telferner, is attracting considerable attention following several good showings. A drill-stem test of sand at 4110-14 feet developed 200 pounds pressure the first three minutes and 350 pounds in five minutes through ¼ and ⅜-inch chokes. It previously showed oil and salt water at 3498-3512 feet. The well is now making hole below 4300 feet.

Steinberger Petroleum Corporation will continue its testing of the Edna field, Jackson County. S. G. Drushell 10, originally drilled by the Chicago Gulf Corporation, is running a series of tests of sands at 4638-74 feet, 4746-72 feet and 4959-94 feet. The well, located ½ mile southwest of the recent Steinberger completion, drilled to 6425 feet, but plugged back and was completed at 5341-48 feet as a wet gasser in 1932, establishing that horizon.

Starts Aransas Pass Trend Test

Barnsdall Oil Company has commenced

New Field Found

WILDCAT IN DUVAL COUNTY SHOWS IN LOMA NOVIA

Laredo.—A new Loma Novia sand producing area was Duval County's contribution during the week to South Texas' mounting reserve figure. It was made by Bridwell Oil Company and Gonman-Yoakum Drilling Company's W. K. Hoffman 1, near the north corner of Section 117, and nearly one mile east of the Hoffman field. Previously it had cored a sand in the upper Loma Novia section at 2800-10 feet, and several drill stem tests failed. Casing was set and plugs have been drilled. However, later developments make it likely that the test opens an entirely new sand lens east of the field, which may lead to considerable development.

Humble Oil & Refining Company has commenced an important McMullen County wildcat, the second on its H. C. Edrington block. The well is in the southwest corner of the east one-half Section 59 and is exactly one-half mile west of Edrington 1, which recently was abandoned at 3162 feet. The first well topped the Pettus at 3054 feet and showed a little oil at 3082 feet.

The Texas Company's Duval County Ranch Company 1-C, in Section 194, three miles northeast of Lopez field, cored oil sand in the Mirando zone, at 2120-23 feet and ran a drill stem test, which showed 1500 feet of salt water in 15 minutes. The well also is 3½ miles southwest of the Colemena field, but apparently west of the strike upon which that field is producing.

the first of a series of tests contemplated by this and several other companies along the Aransas Pass trend. The company's Kate Edwards 1, in Lot 87, Lamar Townsite, Lewis Survey, Aransas County, is to drill to at least 7000 feet. West of this wildcat is the 6500-foot Marginulina production in the McCampbell field and still farther west, near Gregory in San Patricio County, three wells are drilling on wildcat prospects. Texon Drilling Company's Harvey 1 is down 4000 feet, while Hooper and Rutherford's Willis 1 is down 6910 feet. Offsetting this well on the west, Eleanor Oil Company's Kline 1 is shut down at 6851 feet.

Paul Meaders is preparing to commence Temple Lumber Company 1, G. W. Maine survey, 2 miles southwest of Austwell. The test is the third in a wildcatting campaign underway in the eastern portion of Refugio County near Hinds Bay. The other wells are Windsor Oil Company's Bissett 1, preparing to start and Tide Water Oil Company's Landgrof 1, which is drilling below 7690 feet.

Third well in the hot wildcatting campaign just south of Corpus Christi in Nueces County, has shown oil, further increasing the importance of this sector. The well is I. J. Allen and Seaboard Oil Corporation's J. O. Chapman et al. 1, section 80, made a drill-stem test at 6176-83 feet, where it recovered about 500 feet of fluid, ½ of which was oil and the remainder salt water. It is drilling ahead below 6550 feet. Richardson et al.'s R. S. Carter 1, section 8, is drilling below 6250 feet. It had a gas and oil sand between 3895-3917 feet. Wellington Oil Company has acquired 450 acres of leases and Cosner and Cosner's M. L. Stockton 1, section 25, which has attracted considerable attention since encountering an oil sand at 4720-29 feet. It is drilling ahead below 5350 feet, the contract being 7000 feet. It will plug back should it fail to produce at the lower levels.

Burning Well Extinguished

Texon Drilling Company's Clara Driscoll Sevier 2 in the South Agua Dulce field, Nueces County, which has been running wild and burning for several weeks, finally has subsided. The fire is completely extinguished and the hole has bridged almost entirely. The same company's Mable Eliff 1, southwest offset and first test drilled in the field, is being deepened from 6547 feet to the 6832-foot sand from which the Sevier well blew out.

About one mile northeast of these wells and in the southern portion of the Agua Dulce field, United Production Corporation's Walton 1, lot 5, share 1, Chapman subdivision, is completing in sand at 5339-46 feet. This will be an entirely new sand for the field if the test is finished as a producer.

Wellington Oil Company and Pan American Production Corporation's Sevier 1-A, on the southeast flank of the Clara Driscoll field, also in Nueces County, is drilling below 5850 feet, having passed through several gas, oil and distillate sands. Two miles northwest of this well, W. L. Hinds' Clara Driscoll Sevier 1-A failed to show for a producer through first perforations in sand at 5710-30 feet and is preparing to test after re-perforating. About one mile east of the Hinds well and about the same distance north of the Clara Driscoll field, Al Buchanan and Blanco Oil Company's Gandy 1 has been spudded.

Tom Graham To Test

Tom Graham is preparing to test William Singer in the 3100-foot sand which showed considerable oil in cores. The well, located one location north of the same operator's Bennett 1, Jim Wells County, found sand at 3132-63 feet and oil sand to 3167 feet. Shale was then found to 3170 feet and sand and shale streaks with oil saturation to 3183 feet. It was carried to 3400 feet, but plugged back and casing set at 3265 feet for perforation at 3152-64 feet. The Bennett test is producing from sand around 2300 feet. These wells are about two miles west of the Premont field of Jim Wells County.

VALLEY IS ACTIVE
Alta Mesa field discovery offset test blows out

Mission.—Rio Grande Valley's deep wildcatting campaign continues, although no appreciable showings have been encountered. Several, however, rapidly are approaching vital levels.

On the La Blanca prospect of Hidalgo County, McCollum Exploration Company's two wildcats apparently are having a drilling race. J. McDougal 1 is down 5025 feet, while Engelman 1-B is below 4200 feet. H. J. Porter's Sweeney Estate 2, same county, was drilling at 5465 feet, while Dayle L. Smith's Fairbanks and Young, an old test four miles east of the Samfordyce field, had resumed operations at 1856 feet and was drilling ahead at 1910 feet.

Union Sulphur Company's American 10, in the Mercedes field, was cutting out tubing around 7200 feet, the hole being bottomed at 8206 feet.

The California Company's B. Garcia 3-2, south offset to the discovery oil well in Alta Mesa field, Brooks County, blew out when a core was being made at 2448 feet. It ran wild for about 24 hours before being controlled. During the time it was out of control, the well made a great deal of water, mud and gas. It was coring ahead at last reports.

A new shallow area of Starr County appeared remotely possible with preparations being made to set casing in Howard Bass's Hayden et al. 1, in block 4, section 47, portion 80, 5½ miles northeast of Rio Grande City. It is in sand at 1320-35 feet, showing both oil and salt water.

In the same county, Davenport and Slick-Urshel's T. B. Slick Estate 1 was drilling at 4963 feet, while I. S. Lopez 1, of the South Coast Oil Corporation, was drilling at 3500 feet, the contract depth.

ORDERED TO DRILL

Austin. — An order requiring The Texon Royalty Company to drill a directional well for the purpose of controlling that company's Robert Driscoll 2 in Nueces County, was issued by the Texas Railroad Commission last week.

The well caught fire, while it was drilling at 6830 feet. It cratered shortly thereafter which prevented further efforts to control it through the original hole.

153 TEXAS STARTS

Austin.—The Texas Railroad Commission approved, last week, permits for drilling 153 new wells in Texas, which is 386 less than were allowed the week before.

West Texas reported 41 new locations which included 20 in Winkler County. The Panhandle reported only four.

Gulf Coast operators list 35 locations with 11 in Nueces County and there were 39 from Southwest Texas, with 19 in Duval County.

There were 13 permits for East Central Texas and only one from the East Texas field.

North Texas operators listed 13 new locations and there were seven from West Central Texas.

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TEAS ABANDONS

Test was after deepest Edwards lime production

San Antonio.—Paul C. Teas' Clement Vinklarek 1, on the Fayette-Bastrop County line, continued tests December 4 in an effort to establish the deepest Edwards lime production ever encountered. The well was drilled to 7142 feet, 20 feet in the lime, and set casing on bottom. It was perforated at 7123-29 feet, a point where little core was recovered, but which showed possibilities of production on an electric formation test.

On a production test, the well swabbed considerable sulphur water with a show of oil and derrick and rig are being dismantled to abandon. It is remotely possible that another test will be drilled in this area.

The well, located in a 100-acre tract in the S. Millet League, is 10 miles south of Smithville and several feet inside of Fayette County. The lease ownerships in this area are well divided among the major and independent companies. Among those holding protection are Continental Oil Company, Magnolia Petroleum Company, Humble Oil & Refining Company, Fohs Oil Company, Gulf Oil Corporation, Shell Petroleum Corporation, Phillips Petroleum Corporation, Ohio Fuel Oil Company, Memphis Gas Company, Tidewater Oil Company, Red Bank Oil Company, and others.

New Pools Loom

The Teas well was not the only one in the Balcones sector to hold the spotlight. A number of new producing areas seemed likely with wildcats testing showings of oil. Likewise, another deep test was coring for the Edwards lime and having a fair chance to pick it up at a favorable depth.

Red Bank Oil Company's Nellie Gramm 1, E. Stantef survey, in the Chreisman area of Burleson County, cored the top of the Edwards lime at 6226 feet, elevation being 559 feet, derrick floor. The well is running considerably higher than the company's Crain 1, 2500 feet to the southeast, which had a showing of oil and gas along with some water.

The well was cored to 6244 feet, 13½ feet of which was saturated Edwards lime. An electric formation test was run which indicated a possibility of sulphur water in the bottom of the hole, but a drill-stem test was being run. In the event it shows any amount of oil, which is expected, casing will be set and the well tested.

The acreage in the general vicinity is well controlled by independent and major operators, which indicates a hot play should an oil producer be completed.

Guadalupe County contributed a new field in Detroit, Texas, Development Company's N. J. Carter 1, which is estimated at several hundred barrels of oil per day on pump. It topped the Austin chalk about 2065 feet, where casing was set. The hole was drilled ahead to 2356 feet, in the Buda lime. After swabbing, the hole filled 1400 feet with oil. This test is in the Sam Highsmith survey, about two miles northeast of Sullivan and one mile south of the San Marcos river. It is about 2½ miles southwest of the Dunlap area, also productive in this formation.

Another Guadalupe County test holding interest is W. D. Bacon et al's O. D. Halm 1, in the J. Kent survey, three miles south of Kingsbury. The well topped the Austin chalk at 1669 feet and was coring ahead. It showed considerable oil at this level, the showing apparently coming from basil Taylor.

Atascosa Promising

Helvetia Oil Company was drilling plugs in Susie Pratt 2, probable field opener in Atascosa County. The well, located in the Garza survey, 1/3 mile northwest of Anchorage, topped the Serpentine at 3085 feet, drilled that formation to 3428 feet, where it encountered the Austin chalk. A string of seven-inch casing was run to 2971 feet. The best showing was found at 3153-96 feet.

OIL IN GAS FIELD

Plummer pool flank test flows 4 barrels hourly

Beeville.—Oil production was established on the east flank of the Plummer gas field, Bee County, by W. C. McBride, Incorporated's Theo. Plummer 1. The well, several hundred feet east of the discovery gasser, flowed 4 barrels of 26 gravity oil per hour through ¼ and ⅜ chokes, showing pressures of 775 pounds on tubing and 1000 pounds on casing. Pettus sand was topped at 3031 feet and hole is bottomed at 3042 feet, still in sand.

Also in Bee County, Miller-Donzie Oil Corporation's A. M. Holzmark 1-B, extended the Foley Pettus sand production one-fourth mile to the west when it was

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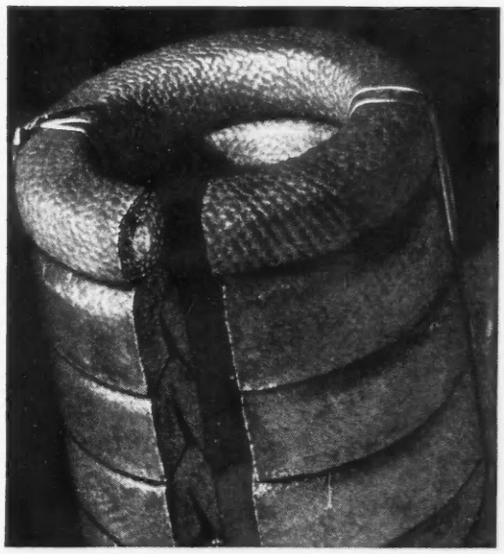

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completed for 10 barrels per hour through ¼-inch choke from Pettus sand at 4064-75 feet. It showed a pressure of 475 pounds on tubing.

Sun Oil Company's Lena Fromme, wildcat 10 miles north of Goliad in Goliad County, made a drill stem test at 5131-39 feet which developed 360 feet of oil and 190 feet of salt water in 10 minutes. It was cored ahead and another test showed less oil, but considerable mud and salt water. It is drilling ahead.

Just northeast of the Oakville field in Live Oak County, Ohio Fuel Supply Company's R. J. Rosebrock 1 is coring for the Pettus sand. A drill-stem test in a Jackson sand at 1918-22 feet showed considerable pressure and a little oil, while another at 2138-45 feet developed mostly salt water, but carried a little oil.

SOUTH TEXAS

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
BEE COUNTY—		
Al Buchanan & Blanco Oil Co., Ed. Strauss 1, sec 20, blk 11, Uranga gr (W. Tuleta)	*	4002
Home Oil Co., W. B. Massey 1, 330 ft sel, 1650 ft swl, 127.1-ac tr, T. K. Pilkington sur, 1 mi n Voss field	*	4015
W. C. McBride, Inc., Theo. Plummer 1, Chessman sur (Plummer), first oil well in field	250	3042
CALDWELL COUNTY—		
Adams & Lyles, W. M. Ellison 3, D. Cooper sur (Branyon)	25	2311
Chiquita Oil Co., W. W. Hickman 2, G. Hinds sur (Salt Flats)	100	2608
Whisenant & Trenchard, Hal Browne 3, J. R. Miller sur (Branyon), pb td 2225 ft	400	2375
CALHOUN COUNTY—		
Humble & Plymouth Oil Co., E. H. Welder 4, J. M. Rios sur (Heyser)	350	5475
P. H. Welder 5-B, A. Sisneros sur (Heyser)	650	5482
DUVAL COUNTY—		
Mills Bennett, W. R. Peters 6, sec 178 (Peters)	400	2612
Cox & Hamon, W. R. Peters 16, sec 322 (Lopez)	500	2098
W. R. Peters 32, sec 322 (Lopez)	500	2160
Humble, J. F. Welder Heirs 15-C, sec 554 (Loma Novia) (Perf. 2717-24 ft.)	350	2982
J. F. Welder Heirs 16-C, sec 554 (Loma Novia)	350	2716
Magnolia, C. W. Hahl 49, sec 67 (Loma Novia)	300	2728
M. G. Peal 26, sec 383 (Lopez)	100	2190
Mortimer & Springer, J. B. Peal 9-B, sec 794 (Lopez)	650	2180
Reliance Oil & Royalty Co., C. O. Drummond 18, sec 308 (Seven Sisters)	1000	2482
Wellington Oil Co., J. F. Welder Heirs 20, sec 383, (Seven Sisters)	650	2449
Westheimer & Daube, Z. Campos 24, sec 224 (Seven Sisters)	750	2710
GUADALUPE COUNTY—		
R. B. Byrd, Mrs. T. W. Jahns 1, 150 ft. nl, swl 125-ac tr, J. K. Davis sur (S Darst Creek)	*	2578
W. J. Dobbs et al, Gus Jahns 1, 150 ft. s river, 150 ft. wl of lease, J. K. Davis sur	*	2461
V. G. Schimmel, C. Grimm 1, G. DeWitt sur No. 13 (S. Darst Creek)	100	2445
JIM WELLS COUNTY—		
John Camp Dr. Co., W. E. Pope 1-B, sec 13, King Ranch sub (Bentonville)	*	5905
LAVACA COUNTY—		
Universal Oil Co. & Glaspie, Schubel 2, 330 ft. nel and sel 100-ac tr, C. Fitzgerald sur	*	2581
McMULLEN COUNTY—		
Humble, H. C. Edrington 1, 330 ft. sl and wl sec 57	*	3162
Loma Oil Co., L. Jacobs Corp.'s F 11, J. Fadden sur (Jacob)	17	916
National Pet. Co., H. L. Lark 2-B, M. O'Boyle sur (Jacob)	25	982
Stewart Oil & Gas Co., L. Jacob Corp. 6, J. Fadden sur (Jacob)	25	924
MEDINA COUNTY—		
Joise Oil Co., Medina 1, sw lot 1, blk 32, sec 7, Irrigated Farms sub	†	250
NUECES COUNTY—		
Benson Dr. Co., Rand Morgan 1, sec 315 (Saxet)	*	4483
R. B. Bryant, M. Scoggins 5, sec 315 (Saxet)	*	4662
J. T. Cox, J. Harney 1, 150 ft nl and el sh 11, Harney lands, 2½ mi se Callahan	*	4280
J. K. Culton, H. B. Baldwin 9, blk 19, Russell Farm Lots (Saxet Heights)	250	4084
W. B. Hinton, E. B. Cole 5, Pages Lands sub (Saxet)	350	4881
Renwar & Maryland, Wm. Meany 2, Villareal sur (Saxet Heights)	200	4604
Southern Minerals Corp., H. Bernson 1, Sec 410 (Saxet)	250	4098
T. H. Isensee 7, sec 404 (Saxet)	350	4425
F. J. Smith 8, blk 5, Sheppard farm lots (Saxet)	350	4425
Texon Dr. Co., G. H. McElroy 5, T. Gallagher sur (Saxet)	400	4447
T. & T., Cain & Sechrist 3, blk 23, Russell farm lots (Saxet)	800	4448
Wellington Oil Co., Clara Driscoll Sevier 5, Wm. Gamble sur (Clara Driscoll)	750	3809
REFUGIO COUNTY—		
United Prod. Corp., M. F. Lambert 31, blk 26, Hardwick sur (Tomoconnor)	1000	5910
SAN PATRICIO COUNTY—		
Sun Oil Co., J. M. Hunt 8, sec 34, Taft farm lands (Plymouth)	600	5634
VICTORIA COUNTY—		
Barnsdall & American Liberty, Pickering & Roos 9, lot 9, SA&MG Ry sur (Placedo)	350	4776
Greenland Oil Co., F. E. Mikeska 5, blk 72, Brownson sur (Placedo)	350	4778
Houston Oil Co., V. A. Urban 1, R. Manchola gr (Cole to Creek) owdd, former td 2174	*	2880
WEBB COUNTY—		
Mid-Continent Pet. Corp., E. T. Laubscher 1, ne nw sec 1394	*	3509
Mortimer & Springer, A. Montemayor 3, Sh 7-B, sec 114 (Lopez)	750	2235

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FULLERTON, CALIFORNIA — GULF ENGINEERS INC., HOUSTON, TEXAS

Company, Well and Location	Init. Prod. Bbls.	Depth
Porter & Blanchard, S. Benavides 7, blk 366, Hale sub, Arispe gr (Cole)	275	2918
Sierra Oil & Royalty Co., A. S. Billings 1-B, sec 113 (Lopez)	750	2236
Starr Dev. Co., A. M. Bruni Est. 1, sec 585 (Cole)	50	2949
ZAPATA COUNTY—		
W. C. Bob, J. M. G. Martinez 1, blk 22, Duke sub, Redondo gr (Charco Redondo)	*	360
H & R Oil Co., M. Garza 4, blk 11, Douglas sub, Comitas gr (Escobas)	60	1235
Glenn Harroun, M. Garza 1, blk 10, Douglas sub, Comitas gr (Escobas)	75	1276
Magnolia, A. D. Haynes 1, sec 7, Haynes sub, Comitas gr (Comitas)	50	1044
United Prod. Co., A. D. Haynes 5, blk 13, Haynes sub, Comitas gr (Comitas)	15	988
A. D. Haynes 6, blk 13, Haynes sub, Comitas gr (Comitas)	35	1028
A. D. Haynes 8, blk 13, Comitas gr (Comitas)	36	1049
A. D. Haynes 9, blk 13, Comitas gr (Comitas)	25	960

TEXAS GULF COAST
Completions

AMELIA—		
Humble, Phelan 1	432	6781
Texas Co., Yount 1	*	8501
ANAHUAC—		
Humble, White B-6	312	7129
BATSON—		
John Deering, Cruse 4	120	5506
COTTON LAKE—		
Glenn H. McCarthy, Kilgore 5	432	6305
DICKINSON—		
Coast Petroleum Corp., Maco Stewart 4	370	8739
Sinclair Prairie, Weems 1	*	lcn.
ESPERSON—		
General Crude, Moores Bluff 21	100	4109
FAIRBANKS—		
Amerada-Stanolind, Dopsaluf 1-A	234	6829
GOOSE CREEK—		
Humble, Gaillard 53	129	1258
Gaillard 54	*	1325
MARKHAM—		
Powers Prod. Co., Myers 5	230	4591
PIERCE JUNCTION—		
Superior Oil & Gas Co., Hume 5	600	4198
RACCOON BEND—		
Humble, Austin College 9-B	216	3282
Hardy 9-B	384	4006
SOUTH HOUSTON—		
F. A. Showers, D. Tate 2	450	4020
TOMBALL—		
Koury Drilling Co., Hillegist 1	¶1	5620
Humble, Quilter 8-A	216	5559
WITHERS—		
Texas Co., Pierce Estate C-15	240	5559
FT. BEND COUNTY—		
Sloan & Zook, Brown 1, Pilant Lake area, Barrett & Harris sur	*	6510
WHARTON COUNTY—		
Shell, Seydler 1, Southeast Wharton prospect, F. Biggam sur	*	5715

*Failures; †Junked; ¶Million cu. ft. gas.

Another in Jefferson

SUN OIL COMPANY IN PROSPECT OF OPENING SECOND NEW FIELD

WEEKLY STAFF REPORT

Houston.—Evidence of a new oil field in Jefferson County, a new gas and distillate field in Galveston County and extension of Anahuac field, Chambers County, held the interest of operators in the Texas sector of the Gulf Coast during the past week.

Shell Petroleum Corporation's Maco Stewart 1, Hitchcock prospect, J. Spillman Survey, Galveston County, was running tubing at 5120 feet December 4, for a production test. Three drill stem tests were made during the week, the last one from 5120 to 5130 feet showing 270 feet of gas-cut mud and a 350-pound pressure in 10½ minutes through a quarter-inch choke on top and bottom of the testing pool. The hole is bottomed at 10,460 feet, being the deepest in the Texas Gulf Coast, and after sticking the drill stem, the hole was plugged back to 9167 feet and casing perforated from 8980 to 8989 feet and a drill stem test was made with the packer set at 8960 feet. In 12 minutes it showed a slight blow and 590 feet of drilling mud and the bottom 80 feet was gas cut mud. The casing was again perforated from 8970 to 8980 feet with seven holes and showed a slight blow and 190 feet of mud with the bottom 90 feet being cement and gas-cut mud.

Test Jefferson Show

Labelle prospect, Jefferson County, may be proven productive by Sun Oil Company's Hebert Broussard 2, which cored 11 feet of oil sand at 8206-17 in the Marginulina-Frio sand. Preparations were underway December 4 for a production test. The test is 8 miles from the highway and due to adverse weather conditions the past several days the trucks have been unable to get necessary casing to the location.

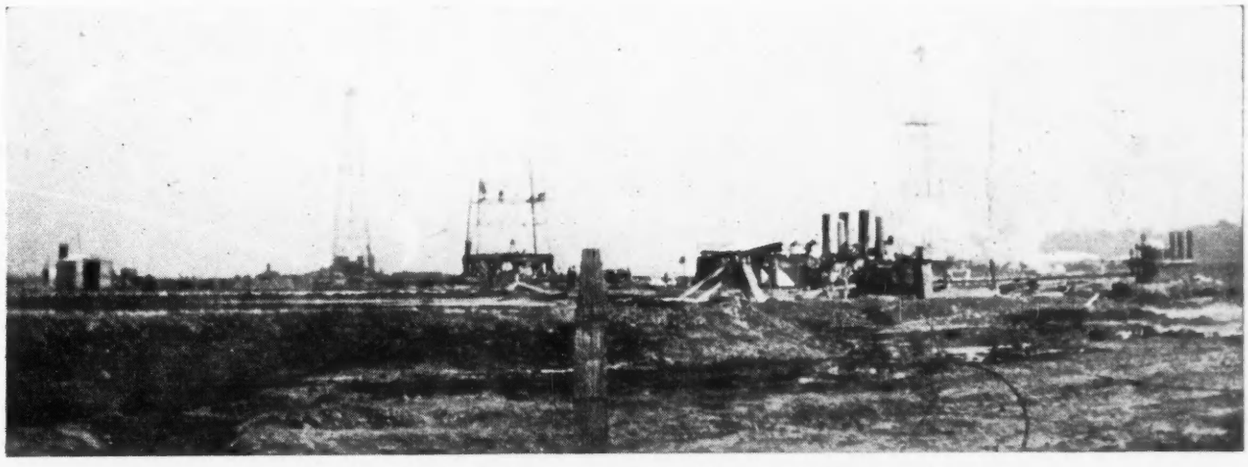
After coring the oil sand an electrical device was run which looked encouraging. If the well proves productive it will open a new oil field for the Texas Gulf Coast and will also be Sun Oil Company's second strike within the past month.

Hebert Broussard 2, 466 feet west and south of the Hebert Broussard lease in the W. B. Burton survey, is the second wildcat in this area. Hebert Broussard 1 was drilled to 9843 feet after encountering considerable trouble with heaving shale. Several showings of gas and oil were encountered. In the lower section of the Frio a test showed oil, gas and salt water.

Anahuac Extended

Gulf Oil Corporation's Pommer 1, H. & T. C. section 46, extended production at Anahuac, Chambers County, 1700 feet east. On potential test it made 691 barrels through a ¼-inch choke with a tubing pressure of 1100 pounds; casing, 1200 pounds; depth is 7127 feet.

On the northeast side of Anahuac and west of Gulf Oil Corporation's Pommer 1, Humble Oil & Refining Company was forced to kill Boyt 3, H. & T. C., section 44, because of a high gas/oil ratio. Boyt 3 was drilled to 7124 feet in oil sand after logging the formation at 7106 feet. Five and one half-inch casing was ce-



North side of Amelia Field, showing Glenn H. McCarthy and Stanolind Oil & Gas Company operations.

mented at 7110 feet. The well came in for 12 barrels per hour through a ¼-inch choke. It is to be drilled a few feet deeper.

Humble Oil & Refining Company's White 18, J. McGahey survey, was waiting on cement to set at the end of the week at 7124 feet. The hole is bottomed at 7132 feet in oil sand logged at 7117 feet. White 6-B, J. McGahey survey, made 13 barrels of 34.7 gravity pipe-line oil per hour through a ¼-inch choke from 7129 feet. Tubing pressure was 400 pounds and casing pressure was 1075 pounds.

Sun Oil Company's Acom 1, Seabreeze prospect, T. & N. O., section 128, Chambers County, which discovered a new gas and distillate field two weeks ago, is making 50 barrels of distillate daily through ¼-inch choke with a tubing and casing pressure of 3300 pounds. Sun Oil Company's White Estate 2, T. & N. O., section 128, was making a squeeze job at 8715 feet due to a leak in the casing, set at 8715 feet. It will be next week before a production test.

At Cotton Lake in Chambers County, Glenn H. McCarthy's Kilgore 5, J. Townsend survey, was completed flowing 18 barrels per hour through ¼-inch choke. Kilgore 6 cored oil sand from 6280 to 6291 feet.

Amelia Producer

On the southwest flank of Amelia field, Humble Oil & Refining Company completed Phelan 1, C. Williams survey, for 18 barrels per hour through a ¼-inch choke with a tubing pressure of 1450 pounds and a casing pressure of 1775 pounds, from sand at 6734-6781 feet. Casing, set at 6781 feet, was perforated with 9 holes from 6775 to 6778 feet.

On the northwest side of Amelia, The Texas Company abandoned Pansy Yount 1, A. Houston survey, at 8501 feet, in heaving shale and drill pipe stuck.

One location north of production at Conroe, Humble Oil & Refining Company cored oil sand in Urech 1 at 5165 feet and continued in the formation at 5169 feet. Casing has been set and a production test will be made the coming week.

Silsbee May Produce Oil

First commercial production looms at Silsbee, Hardin County. Republic Production Company and Houston Oil Company's Brooks 3, J. W. Brooks survey, was waiting on 7-inch casing to set at 6946 feet for a production test. A drill-stem test, which was taken in seven minutes, from 6823 to 6862 feet, showed a 475-pound pressure and four joints of mud through a ¼-inch choke on top and bottom. Cored deeper, another drill-stem test from 6900 to 6943 feet showed a 400-pound pressure in 7½ minutes and showed 3 joints of oily mud. Brooks 2 was preparing to side track at 5700 feet at the end of the week after making a drill-stem test from 6969 to 6989 feet, which showed 17 thribbles of salt water through 2 quarter-inch chokes. The hole was drilled to 7136 feet before it was plugged back.

Sun Oil Company's Lauter 1 on the southeast flank of Clay Creek field, N. Clay survey, Washington County, was drilling below 7478 feet after a test at 7470 feet made 35 barrels by heads in 48 hours. Cement was drilled to 7474 feet and a drill-stem test from 7413 to 7474 feet showed 250 feet of drilling mud and 90 feet of oil, through ⅜-inch chokes in 1½ hours.

A potential test on Amerada Petroleum Corporation and Stanolind Oil & Gas Company's L. Dopsaluf 1, south of production at Fairbanks field, Harris County, made 234 barrels in 24 hours through a ¼-inch choke with a tubing pressure of 2000 pounds and a casing pressure of 2100 pounds, from 6829 feet, in the Cockfield formation.

In the Southwestern portion of the Dickinson field (Gillock), Coast Petroleum Corporation finaled Maco Stewart 4, W. K. Wilson survey for 370 barrels of fluid daily through a 11/64-inch choke. Tubing pressure was 700 pounds and casing pressure was 900 pounds. The hole was drilled to 8741 feet and casing perforated with 60 shots at 8720 to 8739 feet. Sinclair-Prairie Oil Company abandoned location for Weems 1 in the Gillock area.

Sloan & Zook et al.'s J. A. Brown 1 at Pilant Lake, Barrett & Harris survey, Fort Bend County, was abandoned at 6510 feet in salt-water sands.

Shell Petroleum Corporation abandoned a test on the Southeast Wharton prospect in Wharton County last week. Seydler 1, F. Biggam survey, was drilled to 5715 feet in shale.

G. HOMER McDUFF, formerly production superintendent for Pure Oil Company in the Texas-Louisiana Gulf Coast district and now superintendent for Lago Petroleum Corporation in Venezuela, is spending a vacation in Shreveport and Fort Worth.

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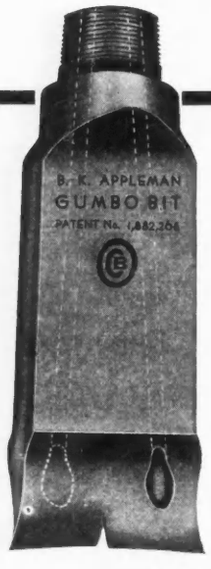

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BEAUNONT, TEXAS, U. S. A.

Near 11,732 Feet

ABBEVILLE TEST APPROACHES HEAVY PRESSURE SAND AGAIN

Lake Charles.—Continental Oil Company's Hebert 1, Abbeville prospect, Vermilion Parish, is approaching the 11,732-foot sand, pressure from which caused the well to blow out some time ago. At the close of the week the crew was drilling in shale in a side track hole 11,670 feet. Approximately 62 more feet of formation is to be cored before the sand is encountered. Progress is approximately 19 feet daily, and care is being taken to prevent another blow out.

On September 18, a soft sand was encountered at 11,727 to 11,732 feet and Hebert 1 attempted to blow out, kicking 13-pound mud out of the hole. Weight of the drilling fluid was increased to 16 pounds. Blowout preventor was closed and the well brought under control. After going back in the hole it was found the drill pipe was lodged in the heaving shale above the sand. While plugging back to 10,790 feet the wildcat attempted to blow out again. When cement had hardened after the plug back job, the crew sidetracked at 10,812 feet.

Two Wildcats Disappointing

Magnolia Petroleum Company's two wildcats in Cameron Parish, one at Big Lake and the other at Johnson Bayou prospect, proved disappointing last week when they were plugged. Raymond LeBleau 1, section 13-12s-9w, Big Lake area, was dry at 8313 feet after coring salt water sand. A gas sand was cored in LeBleau 1 from 6396 to 6400 feet, and a slight odor of oil was logged at 6777 to 6780 feet. Another slight odor of oil was logged from 7778 to 7782 feet.

On Johnson Bayou prospect, Magnolia Petroleum Company's Johnson Bayou School Land 1 was abandoned at 9180 feet after a 20-minute drill-stem test showed salt water and a 2400-pound pressure. The drill stem was stuck 19 feet off bottom when the test was made.

Jefferson Lake Oil Company, like Magnolia Petroleum Company, abandoned two wildcats at Jefferson Lake. The former's Lake Peignuer 409 and 411 were plugged and the operators moved material to Lake Peignuer 413, 400 feet north and 77 degrees west of Lake Peignuer 413, 12s-5e, Iberia Parish.

Jefferson Lake Oil Company's Lake Peignuer 409 was abandoned at 6947 feet after electrical logging device run to bottom showed five ohms from 6942 to 6947 feet. It was debated whether to set seven-inch casing and make a production test. Lake Peignuer 411 stuck the drill stem at 4698 feet and abandoned the hole at that depth.

Steel Balls on Bottom

On the southeast side of English Bayou field, Calcasieu Parish, Union Sulphur Company's Kaufman 3, section 13-9s-8w, was completed flowing 370 barrels of fluid pressure on the 2½-inch tubing. Casing was perforated with 48 holes from 7068 daily, 50 percent salt water, through a quarter-inch choke, with a 375-pound to 7075 feet and 27 feet of ¾-inch steel balls were placed on bottom, and then the tubing was run.

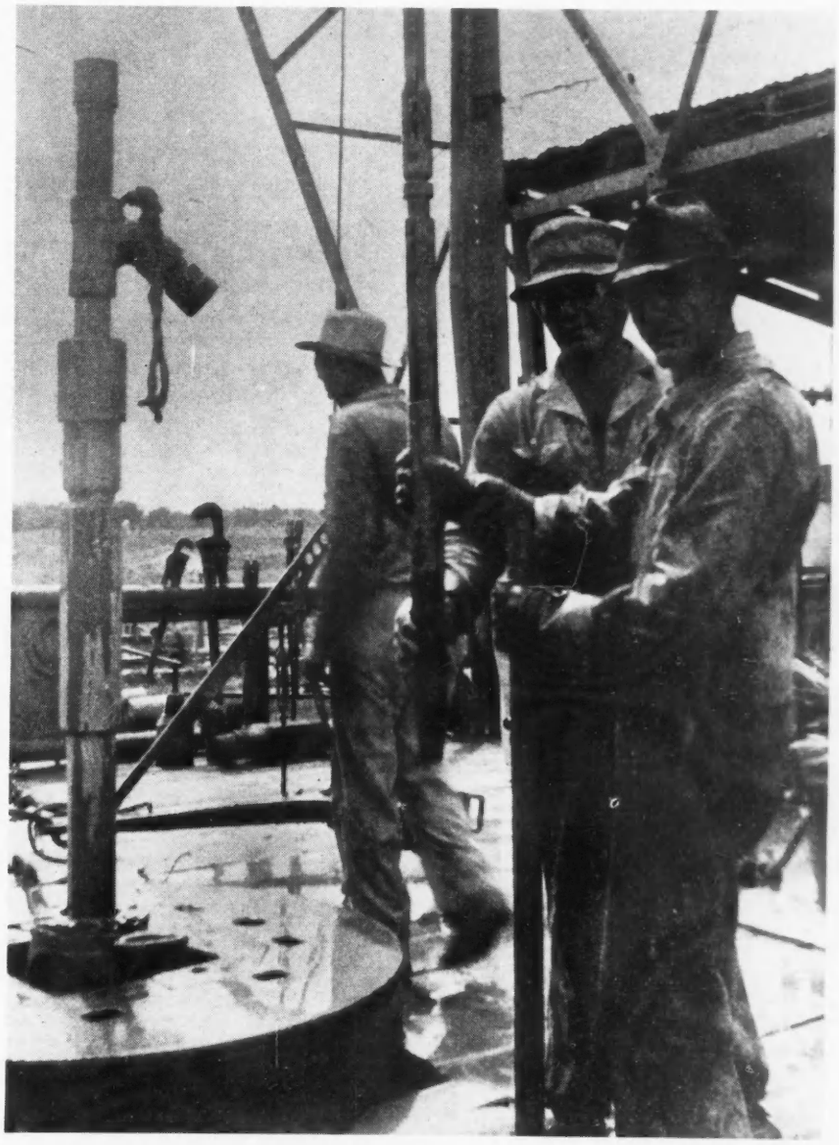
Union Sulphur Company is experimenting on several wells at Gillis and English Bayou by putting steel balls opposite the producing horizon, in wells; a new completion practice on the Gulf Coast. It is still in an experimental stage.

On the northeast side of Gillis field, Calcasieu Parish, Union Sulphur Company's Barbee Estate 10, section 1-9s-8w, was flowing 550 barrels of fluid daily, 50 percent salt water, after perforating casing with 40 shots from 6702 to 6711 feet. Four buckets full of steel balls was placed in the hole. It is producing through a 24/64-inch choke and has a tubing pressure of 200 pounds. The operators will let the well flow for a while before trying to shut off the brine.

New Jennings Sand

A new oil sand was cored on the west side of Jennings field, Acadia Parish, by Superior Oil Producing Company's Eunice Crowley 1, section 42-9s-2w. An electrical logging device showed 20 ohms from 5420 to 5540 feet, but this sand was passed up in order to search for a deeper producing horizon. At the end of the week the crew was drilling in shale at 6490 feet and had missed the 6365-foot sand found elsewhere in the field. The same operator's Heywood 1, section 41-9s-2w, was coring shale at 6190 feet and should be down to the 6365-foot sand next week.

Shell Petroleum Corporation is chang-



Taking a survey of the hole on Continental Oil Company's Hebert 1, near Abbeville in Vermilion Parish, South Louisiana. This is the second deepest test in the world and has chances of becoming the deepest commercial oil producer.

ing blowout preventors on Sturdevant 1, South Roanoke prospect, section 25-10s-4w, Jefferson Davis Parish. The well is still attempting to blow out at 9749 feet. The weight of mud has been increased to keep the well under control. After blowout preventors are changed the crew will fish for stuck drill stem.

Two New Iberia Wells

Two new producers were completed at New Iberia by The Texas Company and Bill Crysanthou. The Texas Company's Hanszen B-2, section 54-12s-7e, Iberia Parish, was finaled at 4705 feet after perforating casing with 150 holes from 4658 to 4705 feet. The well made 640 barrels of 29 gravity oil through a quarter-inch choke, with a tubing pressure of 700 pounds. Seven-inch casing was cemented at 4705 feet.

Bill Crysanthou's Gulf Fee Land 1, section 71-12s-7e, was making approximately 18 barrels daily and will be put on the pump. The test was completed after the crew plugged back to 6728 feet. Screen and liner were set and the well came in flowing by heads. Top of the oil sand was logged at 6720 feet.

The Texas Company made location for L. P. Bryant 2 at New Iberia. It is 452 feet south and 524 feet west of the northeast corner of the Cralina 18.46-acre tract in section 25-12s-7e.

At St. Martinville, St. Martin Parish, Continental Oil Company abandoned Fee 2, section 18-11s-6e. The hole was carried down to 8135 feet in shale. In reaching this depth several sands were cored which carried slight showings of oil. Salt water sands were also logged in the well.

Humble Oil & Refining Company's Wilbert 1, Bayou Blue area, section 67-9s-11e, Iberville Parish, was drilling in sandy shale at 3955 feet at the end of the week after coring sands with oil odors. Previously slight showings of oil were cored from 3200 to 3210 feet, 3326 to 3336, 3381 to 3411, 3471 to 3481, and from 3484 to 3522 feet. The well has had slight showings of oil from 1579 feet to the bottom of the hole.

At Fausse Point, Iberia Parish, The Texas Company was waiting on a drill stem at the end of the week after setting seven-inch casing at 6444 feet. The crew will probably perforate casing the coming week and make a drill-stem test.

SOUTH LOUISIANA
Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
BIG LAKE—		
Magnolia, R. LeBleau 1	*	8313
EAST HACKBERRY—		
Harrison & Abercrombie, Verdine 1.	*	4300
ENGLISH BAYOU—		
Union Sulphur, Kaufman 3.....	185	7075
NEW IBERIA—		
Bill Crysanthou, Gulf Smith Fee 1..	18	6728
Texas Co., Hanszan B-2	640	4705
SULPHUR—		
Union Sulphur, Fee 836	750	4582
ALLEN PARISH—		
Humble, Bel 3, Bel prospect, 28-6s-7w	*	2934
CAMERON PARISH—		
Magnolia, Johnson Bayou 1, Johnson Bayou prospect, 16-15s-14w...	*	9180
IBERIA PARISH—		
Jefferson Lake Oil Co., Lake Peigneur 409, Jefferson Lake, 12s-5e..	*	6947
Lake Peigneur 411, Jefferson Lake, 12s-5e	*	4698

*Failures; †Junked; ¶Million cu. ft. gas.

North Extension

PRODUCER MOVES RODESSA 1½ MILES NEARER ARKANSAS

WEEKLY STAFF REPORT

Shreveport.—Six new locations have been made adjacent to J. Edward Jones' Maidie Shrap 1, SW NW SE 4-23n-16w, 1½ miles north of production on the Louisiana side of the Rodessa field, which is showing for a commercial oil well in the Gloyd horizon at 6035 feet. This well probably will have to use air lift or be standardized as it has not flowed consistently. For a 20-hour period it made 203 barrels through ¼-inch choke and then ceased to flow and was swabbed back in. Casing pressure was 550 pounds, and tubing pressure 25 pounds. For the next 24 hours it flowed 180 barrels of oil by heads through ¼-inch tubing choke.

Gravity of the oil is 43.8 Baume. It is 39 percent gasoline and 20 percent distillate.

Meanwhile nearly 2 miles to the southwest and north of a supposed lateral fault, Bay Oil Company probably will have to follow similar procedure in George Parker 1, G. Crowder Survey, which flowed and swabbed 80 barrels of oil in 12 hours. It is also producing from the Gloyd.

Idessa Oil Company's Sumner 1, SW SW 10-23n-15w, northeast outpost well that swabbed dry at 6197 feet, is still shut down, no effort having been made so far to perforate and test higher horizons.

West Test Having Trouble

H. L. Hunt, Incorporated, continued efforts to get a commercial well in I. N. Shelton 1, James Davenport Survey, Cass County, a west outpost test that tested salt water with a show of oil at 6051 feet in the Young and plugged back and perforated casing above. It tested salt water also in the Dees and was plugged back and perforated at 5897 to 5923 feet where it swabbed dry. Plans are being considered to drill out cement to 6050 feet and retest the Young.

Seventy-eight tests were drilling last week in Rodessa of which 59 were on the Cass County, Texas, side of the field and 19 on the Louisiana side. There were 10 rigging up of which 9 were on the Texas side and there were 7 locations, 6 in Texas.

Holcomb, Thomasson et al's (M. H. Overless) Lizzie Henderson 1, R. Bennington Survey, Marion County, 13 miles southwest of production, was drilling below 3735 feet without having picked up the red beds but as there is a section of Fredericksburg present in this test not present in Cass County, this may not necessarily mean the well is checking too low.

R. W. Norton's Payne 1, SE SE 27-23n-16w, south of the Rodessa fault, and planned as a 10,000-foot test is drilling below 5800 feet.

The new locations made around the J. Edward Jones' Maidie Sharp 1, include two by Jones, Maidie Sharp 2 and 3 in the same quarter-section with Maidie Sharp 1, and four by W. C. Feazel for Potts 1, 2, 3 and 4, all in Section 8-23n-16w. R. W. Norton made location for W. Starke 2, SW SW 16-23n-16w.

On the Texas side of the field locations were made for Haywood 5 and 6, Priscilla Evans Survey by Magnolia Petroleum Company; for W. C. Farrier 5, 6 and 7, W. R. Mayers Survey, by Phillips Petroleum Company and for Moore 4 by R. W. Norton in the W. R. Meyers Survey, American Liberty Oil Company made location for Wiley 4, James Davenport Survey; Ohio Oil Company for Willis 7, SFIW Survey, and Tidewater Oil Company for W. D. Chew 1, Robert Trammell Survey.

The largest well so far in the northeast part of the field was completed last week by Lion Oil Refining Company in Wynn 5, SW SE SW 9-23n-15w, which gauged 60 barrels per hour through ¼-inch tubing choke at 6040 feet. There were 10 other completions last week, including seven on the Texas side of the field.

In Cass County, Magnolia Petroleum Company has a seismograph unit working north of the Rodessa field and in Marion County between Lodi and Jefferson Phillips Petroleum Company and Fohs Oil Company have shooting units at work. H. L. Hunt is leasing in Cass County around the A. H. Latimer and adjacent surveys and O. H. Lapin is leasing around the J. H. Shull Survey. Phillips Petroleum Company has a seismograph unit in Bowie County near Redwater.

Eight geophysical crews are working in Panola County and in Shelby County Arkansas Fuel Oil Company has a seismograph unit still working near Paxton and The Texas Company has one working near Center.

Bellevue Deep Hopes

The Bellevue shallow field centering in section 14-19n-11w, Bossier Parish, the highest point structurally on the Sabine Uplift where oil production in the Nacatosh is found at 300 to 400 feet, and lower Cretaceous gas production at 2200 feet, is getting con-

siderable attention at present as a possible productive area at deeper levels.

However, this is a truncated structure insofar as some of the lower beds are concerned, as evidenced by a 5000-foot test drilled several years ago. During the last week several geophysical crews have been working around the flanks of the Bellevue structure and Premier Investment Company of Fort Worth, Texas, which has had considerable success in getting shallow production there and has considerable acreage, is reported adding to its holdings. Shell Petroleum Corporation is also buying some scattered leases in that area. Recent developments in the Sligo field, in township 17 north, ranges 11 and 12 west, have no doubt tended to throw some reflected light on possibilities of the deeper horizons at Bellevue.

Altogether there are 25 geophysical crews working at the present time in North Louisiana.

Leasing Activity

With Magnolia Petroleum Company continuing to add to its holdings in township 23 north, range 7 west, east of the shallow Haynesville field that produces from the Blossom (Ozan) at 2800 feet, Johnson & Hollenback are adding to their block south of that field in township 22 north, range 8 west.

In Jackson Parish, Seaboard Oil Corporation is adding to its block in township 15 north, range 3 west, but is said not to contemplate any immediate test, this acreage being held in reserve should Travis Peak production be found on its block in township 16 north, range 6 west, Bienville Parish. In Sabine Parish, Magnolia Petroleum Company is taking some leases around Section 13-9n-14w.

In Grant Parish, central Louisiana Harvey Weir last week staked location for McQuin 1, SEc 10-7n-3w, for a 3000-foot test on a 4500-acre block. In Sabine Parish Luther Swift has erected derrick for Long-Bell Lumber Company 1, SE SW 11-8n-14w, southwest of the Converse field and north of the Blue Lake (West Zwolle) field.

Grady Vaughn and associates last week were rigging up for a 5500-foot test in the old Spider district, DeSoto Parish. The test is Sample 1, Section 24-11n-14w. This is on a block assembled by N. V. Duncan.

E. T. Oakes was hauling in 5 3/16-inch casing to cement at 5310 feet in Patton Estate 2, NE NE 1-20n-5w, Claibrone Parish, 6 miles northeast of the Sugar Creek gas field, after he logged a lime formation showing oil and gas from 5359 to 5379 feet. The lime was identified as basal Glen Rose near contact of the Travis Peak; elevation is 357 feet. Seven-inch casing had been cemented at 5007 feet.

Sugar Creek Syndicate's Darrett 2, SE SW 31-20n-5w, second Sugar Creek Travis Peak gasser, completed recently, gauged 20 million feet of wet gas with 2200 pounds rock pressure after being plugged back to 5703 feet from 8616 feet, depth record for North Louisiana and Arkansas.

The same company's Taylor 1, Sec-

NORTH LOUISIANA
Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
CADDO PARISH (Pine Island)—		
Stanolind O&G Co., Dillon Heirs 113	18	1715
MOREHOUSE PARISH (Monroe)—		
Carbons, Consolidated, Feasel 7, 3-20n-4e	¶3½	2099
United Carbon Co., Stovall 7, 27-21n-4e	¶5½	2146
BOSSIER PARISH (Sligo)—		
United Gas Pub. Serv. Co., Skannal F-1, 26-17n-12w	100	5203
United Gas Pub Serv. Co., Roos 1, 23-17n-12	¶12	5209
CADDO PARISH—		
Prairie River Synd., Hutchinson 1, 15-15n-12w	*	7373
CADDO PARISH (Rodessa)—		
Lion Oil Ref. Corp., Wynn 5, 9-23n-15w	3000	6040
United Gas P. S. Co., W. B. Spearman 5, 15-23n-16w	1200	5985
United Gas P. S. Co., Rodessa 26, 15-23n-16w	1000	6002
United Gas P. S. Co., Fee 4, 16-23n-16w	1200	5993
CASS COUNTY (Texas)—		
American Liberty Oil Co., Wiley 2, James Davenport sur	1000	5985
Magnolia Pet. Co., Mada Green 4, Robt. Trammell sur	1000	6050
United Gas P. S. Co., Stewart 8, Jno. Collum sur	1000	6042
United Gas P. S. Co., Rambo 6, Robt. Trammell sur	1200	6010
United Gas P. S. Co., Jones Unit 6, Benj. J. Murray	1200	6025
United Gas P. S. Co., Jones Unit 8, Benj. J. Murray sur	1200	6022
United Gas P. S. Co., Wall A-8, James Davenport sur	1200	6075

*Failures; †Junked; ¶Million cu. ft. gas.

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High Pressure Type, for Slush Pumps

Details of operation of the SHEAR-RELIEF Valve are right on the name-plate, so you can't go wrong in setting it. Notice the relieving pressures, and the size nail which shears at each pressure. Notice also the nail gauge, which eliminates any chance of mistaking nail size. Notice, too, the simplicity of inserting the nail on the SHEAR-RELIEF Valve, shown above.

FLUID-PISTON SLUSH PUMPS
ABERCROMBIE PUMP CO.
GULF BLDG. HOUSTON TEX.

tion 5-19n-5w, in the same field, after drilling to 5927 feet in the Travis Peak and missing production in that horizon, has plugged back to 5100 feet and is making drill-stem test for Glen Rose lime from 4900 to 5100 feet.

24 LOUISIANA PERMITS

Shreveport, La.—Twenty-four drilling permits were authorized last week by the minerals division, Louisiana Conservation Commission, including one renewal. Of this number 13 were for North Louisiana, divided among the following parishes: Bossier two, both in Sligo; Caddo six (including one renewal), all in Rodessa; DeSoto, one; Grant, two; Morehouse, one; and Union, one.

The eleven in South Louisiana were divided among the following parishes: Acadia, three; Ascension, one; Calcasieu, two; Cameron, three; Iberia, one; and St. Martin, one.

MISSISSIPPI

Jackson, Miss.—State of Mississippi's Fee 2, NW NW 25-6n-1e, Hinds County, on the north side of the Jackson gas field, on the 1320 acres around the state insane asylum on which the state is drilling a series of five tests, last week was ready to drill ahead after 9-inch casing had been cemented at 2514 feet in chalk logged at 2469 feet; elevation is 326.5 feet.

This test will explore for oil production below the gas-producing Midway chalk horizon that produces in the field at the 2400-2500 foot level.

ROBERT E. SPEER, analytical engineer for Phillips Petroleum Company, resigned effective December 1, to become associated with the United States Geological Survey as assistant petroleum engineer. He will make headquarters in Oklahoma City.

PERMIAN NEGATIVE

Another South Arkansas test faces abandonment

WEEKLY STAFF REPORT

El Dorado, Ark.—Possibility of commercial porduction in the top of the Permian lime was scratched off another South Arkansas geophysically-located prospect last week when Phillips Petroleum Company and Joe Modisett's Brown 1, NE NW 28-16-12, Bradley County in the Moro Bay district, cored 20 feet of porous Permian lime from 4880 feet, top of this formation to 4900 feet; elevation is 90 feet. This test, unless a showing of oil or gas is encountered, will be abandoned above 5200 feet. Top of the red beds was logged at 2829 feet.

Meanwhile another producing lens has been found in the old Rainbow City field, Union County, in S. H. A. Oil Company's E. F. Gregory 2, Section 10-17-14, which made 230 barrels of oil in 16 hours from 3436 feet. The oil is 29.8 gravity, showing 2.4 percent basic sediment and no water.

With the drilling contract awarded to E. C. Johnston of Longview, Texas, Root Petroleum Company last week spudded Jones 1, NE SW NE 16-13-23, Hempstead County, and set 13-inch surface casing.

Considerable leasing by individuals and independent operators has occurred around Joiner and associates' (Odell Hinson) Montana Realty Company 1, NE NW NW 3-17-28, Miller County, in which 7-inch casing was cemented at 5270 feet after an oil show in the Glen Rose. H. L. Hunt, Incorporated, is reported to have leased several thousand acres in townships 16 and 17, ranges 27 and 28, including about 1500 acres across the Texas line in Bowie County. J. K. Wadley has added to his block near Fouke, taking leases in townships 16 and 17, ranges 27 and 28. C. A. Whittington is leasing in township 17, range 27, and John F. Magale, around Section 12-17-28. Al Sutton of Tyler, Texas, also is leasing in this area. H. L. Hunt has also taken about 1000 acres in the vicinity of C. V. Lenz's Dale 7, Section 24-15-26, Miller County, which also reported an oil showing at 4210-16 feet and has set casing.

Superior Oil Company is leasing in Ouachita County in township 15, range 19, and northwest of the Snow Hill field in Section 27-15-15 of the same county, Arkansas-Louisiana Gas Company has been seeking leases. In Nevada County, in township 15, ranges 18 and 19, Lion Oil Refining Company has been leasing and R. S. Holmes is assembling a block around Section 29-13-21.

Benedum and Trees Oil Company made three more locations in the four-mile southeast offshoot of the Irma field in Nevada County last week, where it now has one oil well producing from the 2190-foot level and a small gasser producing from the Nacatosh, with a third well ready to pump from the Nacatosh. The new area is called the Troy field, from a nearby hamlet.

Locations were made by this company for Grove 4, SW NW 10-14-20; Groves 5, C NE SW NW, and Groves 6, SW NE NW 10-14-20. Groves 3 in the same section will be standardized in the Nacatosh having 700 feet of oil in the hole and Groves 2 was completed as a 4,970,000-cubic-foot gasser in this horizon. Rock pressure was only 335 pounds.

Walter Lown reports a showing of oil in sand at 2418 feet in Atkinson 1, NW SE 7-10-13, Dallas County, and is shut down curing titles.

EV

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Figure 158

MAINTENANCE ENGINEERING CORPORATION

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HOUSTON, TEXAS

ONE ARKANSAS PERMIT

El Dorado, Arkansas. — Only one drilling permit was issued last week by the Arkansas Board of Conservation, as follows: Ouachita County—J. D. Reynolds, Camden, Arkansas, P. C. Grayson 2, lot 4, Block 11, town of Stephens, NW SE 21-15-19.

ARKANSAS

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
UNION COUNTY—		
B. F. Tomblin, Taylor 1, 27-19-15..	*	2308
BRADLEY COUNTY—		
Phillips Pet. Co. & Joe Modisett, Brown 1, 28-16-12	*	5196
NEVADA COUNTY—		
Benedum & Trees Oil Co., Groves 1, 10-14-20	125	2190
Benedum & Trees Oil Co., Groves 2, 10-14-20	¶5	1225
UNION COUNTY (Rainbow City)—		
S. H. A. Oil Co., E. F. Gregory 2, 10-17-14	325	3436

*Failures; †Junked; ¶Million cu. ft. gas.

Increases Flow

VENTURA AVENUE WELL IS YIELDING 887 BARRELS

WEEKLY STAFF REPORT

Los Angeles.—In Ventura Avenue oil field Associated Oil Company's V. L. & W. 30 recently started flowing through the formation tester during a water shut-off test at the rate of 813 barrels a day net of 29.5, gravity oil cutting 3.4 percent, and 804,000 cubic feet of gas. Flow was through an inch choke, with a flow pressure of 150 pounds. Depth is 6872 feet, open for the test only five feet below the shoe of the nine-inch water string at 6867 feet. The tester valve was not closed and the well is now flowing 887 barrels a day of 30 gravity oil cutting 1.3 percent and 824,000 cubic feet of gas.

Seaboard Oil Company's Johnson 1, Section 13-3s-3e, is being cored at 5784 feet in hard shale, with no important showings of either gas or oil. Location is 55 miles east of San Francisco and about nine miles southwest from the Tracy gas field. It is found that the shale bodies are thicker in this well than expected.

El Segundo Activity Accelerated

In El Segundo field, 14 miles southwest of Los Angeles, the prospect of Richfield Oil Company completing its El Segundo 1 for a greater output than any of the three wells already completed in the field has greatly accelerated activity here. Development of this field, since the completion of its first well May 3, 1936, has been very slow, due largely to the uncertainty as to the direction of trend and a real extent of the productive basal conglomerate zone. A great deal of caution has resulted also from the fact that production has so far been small, considering the depth to the oil zone and that only one productive zone is known to be present.

Republic Petroleum Company has acquired the Terminal Oil Company's 10-acre parcel formerly held by H. P. Corporation. The foundation set by H. P. Corporation about the first of September will be used for the first well. Location is 990 feet s and 2475 feet e from the nw corner of Section 18-3s-14w, and falls about midway between Richfield Oil Company's El Segundo 1, now standing cemented, and the discovery well, Republic Petroleum Company's Republic-El Segundo 1.

The Texas Company has leased from O. T. & A. C. Johnston Company SE NW and the E½ SW Section 18-3s-14w. The property adjoins the Richfield Oil Company's El Segundo lease to the west and southwest, and brings the Texas Company's acreage in the area to 360 acres. Drilling must be started by January 15, 1937.

Torrance Flank Test Wet

Chanslor-Canfield-Midway Oil Company's Redondo 2, at the west end of the Torrance field and within the city of Redondo Beach, encountered the top of the basement schist at 4343 feet and was bottomed at 4389 feet. The small amount of conglomerate zone recovered was wet, and no test will be made of that zone. No oil showings were found below 3157 feet, the depth at which the well was put on the pump August 30 for a test and pumped 54 barrels a day of 11.5 gravity oil with a cut of 20 percent. The top of the schist in this well is shallower by far than in any other well in the vicinity. The fact that it is 500 feet higher in this well than in Frans Nelson Petroleum Company's Huntington-Redondo 1, located 1 mile to the south, and that it is about 500 feet structurally higher in the upper Miocene sediments, as well, would tend to indicate that the structural fold in the sediments may roughly reflect the topography of the basement schist.

Standard Oil Company's K. C. 9-1, in the Ten Section oil field, located 2 miles east and ½ mile south of the

CALIFORNIA

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
FRUITVALE—		
Harr & White, Ticehurst 1	200	3396
KERN FRONT—		
Honolulu Oil Corp. No. 69	240	2870
McVAN—		
Calif. Western, No. 2	30	1178
MIDWAY-SUNSET—		
Associated, No. 7	55	1235
C. C. M. Oil Co., No. 21	295	2851
Five Point Pet. Corp., No. 2	50	1095
Pomoc Oil Co., Perris 8	150	2810
ROUND MOUNTAIN—		
Shell, Caldwell 16	670	1505
LOST HILLS—		
Associated, No. 6-L-3	165	2253
ADAM—		
A. N. Macrate, Rice 1	120	2554
EL CAPITAN—		
General Pet. Corp., Erburu 21	235	1740
JAVON—		
Continental Oil Co., Hobson 2	300	5700
DOMINGUEZ—		
Union, Hellman 44	300	5413
RICHFIELD—		
Union, Chapman 37	170	3498
VENICE—		
Union, King Vidor 17	80	6318
WILMINGTON—		
Sunset Oil Co., Lupie 2	100	3559
EAST COYOTE—		
Armstrong-Babcock-Rowan, May 1	*	3212
LOS ANGELES COUNTY—		
West American Oil Co., Dominguez Estates 1	*	6595
TEN SECTION—		
Ohio Oil Co., K. C. L. E-1	*	8823

*Failures; †Junked; ‡Million cu. ft. gas.

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Their Record
For Oil Country Drilling,
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discovery well, is being cored at 8096 feet in brown shale with thin streaks of oil sand.

Shell Oil Company's Greer 1, wildcat in the DiGiorgio area, 15 miles southeast of Bakersfield, is being swabbed for production with the fluid level at 4006 feet and is making no showings of oil or gas. Depth is 6171 feet in schist, plugged to 6013 feet. The 5¾-inch water string was cemented at 5720 feet, and 465 feet of four-inch liner, including 441 feet perforated, was landed at 6148 feet. The liner was reperforated at 6007-5746 feet, and 2½-inch tubing was hung 5663 feet prior to the test.

Grapevine Test Inconclusive

Ohio Oil Company's Title Insurance & Trust D-1, wildcat in the Grapevine area, 30 miles south of Bakersfield, is being cored at 5351 feet in sandy shale. The interval 5155-5306 feet was tested with a formation tester without conclusive results. The well is located about two miles north of Reserve Oil & Gas Company's Tejon 33-2, which was recently tested for production in the interval 4444-4490 feet.

Reserve Oil & Gas Company is building derrick for a new test, Tejon 33-3, to be drilled under contract. The location falls 630 feet south of Tejon 33-2 and should be found to be up structure if the regional dip is not interrupted by faulting or folding.

Hall-Baker Company is drilling a core hole, Tejon 1-10, in Section 12-10n-19w, located roughly 1½ miles south and 2¼ miles east of Tejon 33-2, above. Several wells have been drilled in this general vicinity but none has developed commercial production.

Playa Del Rey Outpost Coring

Sharby Oil Company's Michael 1, outpost well east of Playa del Rey oil field, is being cored at 7125 feet in hard black shale. On the basis of the top of the black shale and other data, this well is reported to be correlating 35 feet higher than Eastern Oil Company's Eastern 1, drilled 500 feet to the southwest. On this basis the nodular shale should be encountered at 7233 feet and the oil sand-conglomerate zone at about 7363 feet.

In the East Coyote field, 30 miles southeast of Los Angeles, Armstrong-Babcock-Rowan's May 1 was taken over by Oil Conservation, Ltd., and deepened from 3010 to 3212 feet and is now being abandoned. Oil and gas showings on the ditch were noted 3066-3112 feet but were not considered important.

MICHIGAN
Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
ARENAC COUNTY—		
McClanahan Oil Co.'s Seignious 1, se sw se, 3-20n-4e	990	2506
CLINTON COUNTY—		
St. Louis Pipe Co.'s Harris 1, nw ne sw 14-7n-2w	*	2855
GLADWIN COUNTY—		
Goll, Graves, Mechling's State 1, nw ne sw 30-19n-3e	*	1200
GRATIOT COUNTY—		
Wiser Oil Co.'s Reinsmith 1, c nw ne 3-10n-4w	¶6¼	1006
ISABELLA COUNTY—		
T. F. Caldwell, Inc.'s Beatty 1, ne ne se 21-16n-4w	440	3790
Nolem Oil Co.'s House 4, nw nw nw 21-16n-4w	290	3725
Slentz 3, sw sw sw 23-16n-4w	90	3721
MECOSTA COUNTY—		
W. J. Bernier's Fitzgerald 1, nw nw se 9-13n-9w	*	3629
Taggart Brothers' Waters 1, nw sw se 28-16n-8w	*	3959
Peterson 1, c se se 33-15n-9w	*	1600
MIDLAND COUNTY—		
Pure Oil Co.'s Bond-Root 12, c n½ nw se 3-13n-2w	25	3448
Corning A-4, c s½ sw nw 12-13n-2w	46	3428
Bauman & McCollister's Rayner 1, n½ ne ne 5-13n-2w	*	3670
Roosevelt Oil Co.'s Campbell 10, ne ne nw 17-13n-1w	55	2900
MUSKEGON COUNTY—		
R. C. Lent's Clenk 1, se se sw 12-9n-15w	¶2	1290
Michigan Exploration's Veltman 1, sw sw ne 20-9n-16w	*	2255
OGEMAW COUNTY—		
W. J. Bernier's Weiler 1, ne se sw 14-22n-1e	25	2790
Fortney Oil Co.'s Fisk 1, sw nw ne 28-22n-2e	110	2740
Weber Oil Co.'s Crawford 3, ne ne se 28-22n-2e	190	1780

*Failures; †Junked; ¶Million cu. ft. gas.

WINFIELD TEST SHOWS
If not commercial will stimulate development

WEEKLY STAFF REPORT

Mt. Pleasant, Mich.—Daily Crude Oil Company's Weatherby 1, SW SW SE 20-12n-9w, Winfield township, Montcalm County, failed to show in Dundee lime logged at 3210 feet but after drilling a 100-foot section picked up oil and gas in the top of the Monroe lime at 3311 feet. Deepened to 3312 feet it made a bailer of water per hour but this appeared to be exhausted later and when deepened to 3315 feet test swabbed and flowed 28 barrels on November 30. Well was being tested with possible deepening scheduled this week.

Whether Daily Crude Oil Company's wildcat is made into a commercial producer or not the showing probably will lead to additional development in the area. Several majors and leading independents have blocks in the district. Two years ago a deep test was drilled 1½ miles north which showed but did not prove commercial in Dundee lime.

Mountain Oil & Gas Company's Thompson 1, Section 17-15n-6w, Sherman township, Isabella County, 3½ miles northwest of the Sherman discovery well (Section 34-15n-6w) logged Dundee approximately 67 feet lower than the discovery and went into black water at 3702 feet. It probably will be abandoned. Failure of the test may slow up projected development in the district.

With 19 drilling permits issued this week the total for the year reached a new all time peak of 707 with the previous yearly high made in 1936 when an even 700 starts were authorized. Present rate of new starts may boost the all year figure to 800.

EASTERN FIELDS

WEEKLY STAFF REPORT

Completions
OHIO

Company, Well and Location	Init. Prod. Bbls.	Depth
ASHLAND COUNTY—		
Ohio F. G. Co., Wade Welch 3	¶	2833
Stanislawska 2	*	764
Martha Gramlick 1	¶	2836
WAYNE COUNTY—		
Ohio F. G. Co., S. E. Nussbaum 1	*	4044
Walter Dodez 1	*	4029
MEIGS COUNTY—		
A. N. Mengel, Cora Ator & Co. 1	¶	1137
Bowman & Deem, Jennie Jacks 2	¶	742
Holmes & Co., Edguard Ervin 3	*	2020
Avery Roberts, Clyde Wine 1	¶	1948
WASHINGTON COUNTY—		
Ben Andrews, I. J. Bosworth 1	1	976
HOLMES COUNTY—		
Ohio F. G. Co., Julia Mitten	¶	3346
KNOX COUNTY—		
Sterl Brown & Co., Ross Deal 1	2	655
H. H. Perkins, Thomas Weir 1	*	2448
Ohio F. G. Co., Palmer Beal 1	*	2986
Lem Strickler 1	¶	3033
LORAIN COUNTY—		
Ohio F. G. Co., Charles Schultz 1	¶	2631
LICKING COUNTY—		
Long Producing Co., William Varner 5	53	3038
E. H. Everett Co., F. Montgomery 15	15	2924
COSHOCTON COUNTY—		
Preston Oil Co., T. Underwood 1	¶	3179
TUSCARAWAS COUNTY—		
Ohio Fuel Gas Co., G. Barthlome 1	¶	4294
RICHLAND COUNTY—		
Ohio Fuel Gas Co., Minerva Ward 4	¶	2606
CUYAHOGA COUNTY—		
Bradford & Averill, L. F. McGrath 1	¶	2401
LOGAN COUNTY—		
Hunterville O&G, S. A. Buckingham 1	¶	1403
STRAKE COUNTY—		
Ohio Fuel Gas Co., Eliz Harmont 6	¶	1130
HOLMES COUNTY—		
Ohio Fuel Gas Co., E. E. Lozier 1	*	3161
Albert Burkey 2	*	3236
HURON COUNTY—		
Ohio Fuel Gas Co., Fred Jarrett 1	¶	860
PERRY COUNTY—		
Mid-East Gas Co., W. R. Williams 1	¶	3202
MONROE COUNTY—		
Stout & Shafer, Frank Starkey 2	10	1660

WEST VIRGINIA

KANAWHA COUNTY—		
United Carbon Co., George W. Facemyer 1	¶	4816
West Virginia Gas Co., C. M. and Lizzie Caldwell 3	¶	3936
ELK DISTRICT—		
Hays O&G, John Judy Heirs 1	¶	5174
MONONGALIA COUNTY—		
Carnegie Nat. Gas, L. D. Boyles 1495	¶	2413
RITCHIE COUNTY—		
Carnegie Nat. Gas, Ferrebee Heirs 1	¶	1800
ROANE COUNTY—		
L. C. Young & Co., Herbert White & Co. 1	¶	1699
J. N. Hawkins 1	*	1893
FAYETTE COUNTY—		
Godfrey L. Cabot, Inc., Kanawha Garba Coal Co. 8	¶	2669
BOONE COUNTY—		
O. B. Cunningham & Co., J. T. Ferrel 1	¶	1043
MONROE COUNTY—		
H. B. Walker & Co., Louisa Short 1	¶	1490
WASHINGTON COUNTY—		
G. T. Gale & Co., G. T. Gale Lot 1	4	952
Alford McKitrick, McKitric 1	2	1420

KENTUCKY

McLEAN COUNTY—		
Clark Snyder, E. Price 1	*	....
B. B. Oil Co., Strand Farm 1	*	....
Sunflower Oil Co., Judge Newton 1	*	....
Major Oil Co., First Baptist Church Lot 1	*	....
Kentucky Prod. Co., Hicks Lot 1	35	....
Troy Refining Co., H. L. Downs 1	35	....
OHIO COUNTY—		
R. H. Graham Pet. Exploration Co. 13	35	....
Guy Richards, Lowman & Co. 3	*	....

*Failures; †Junked; ¶Million cu. ft. gas.

THE OIL WEEKLY REPORT ON IMPORTANT *Wildcat Tests*

ALABAMA

HOUSTON COUNTY — Rice O&G Co.'s Oakley Est. 2, nw sw 9-3n-29e, elev 191 ft, installing heavier rig to deepen, td 4002 ft.

MOBILE COUNTY — Grand Bayou O&G Co.'s J. A. Stafford 1, sw sw 24-7s-3w, lcn.

ARKANSAS

BRADLEY COUNTY—Phillips Pet. Co. & Joe Modisett's Brown 1, ne nw 28-16-12, elev 90 ft, top red beds 2829 ft, top Permian lime 4880 ft, cored lime showing sw 4880-4900 ft, dry abnd, td 5196 ft.

CALHOUN COUNTY—I. B. P. Oil Corp.'s Henisberger 1, sw se 9-11-13, elev 207 ft, sd 1470 ft.

COLUMBIA COUNTY — J. C. Buckbee, Tr.'s Cumbie 1, 17-17-18, no report. King Oil Corp.'s Fullenwider & Kitchen 2, se nw 13-17-22, top Nacatosh 1915 ft, dr 3820 ft lime.

CLARK COUNTY—J. G. Wooten's Sparkman 1, 1-11-20, no report.

CLEVELAND COUNTY—Diffie et al's L. C. Ross 1, sw ne 1-11-11, sd 100 ft. R. L. Saxon's L. C. Tipton 1, sw ne 13-11-12, elev 207.4 ft, rur. J. R. Lockhart's I. Robertson 1, sw se 36-10-11, dr 2984 ft shale.

DALLAS COUNTY—Walter Lown's Atkinson 1, ne nw se 7-10-13, claim so in sand, sd curing title, td 2418 ft sand.

GRANT COUNTY—Wallace & Staples' W. F. Davis 1, se se nw 23-6-15, fsg 1860 ft.

HEMPSTEAD COUNTY—H. D. Easton et al's Conway-Tiller 2, sw sw 34-12-27, elev 251 ft, arr deepen, td 3005 ft. Root Pet. Co.'s Jones 1, ne sw ne 16-13-23, spd woc 13-in surf csg.

LITTLE RIVER COUNTY—M. E. Sanderson's Penning 1, ne ne sw 6-13-30, sd 168 ft. Joe Strahan's Dierks Lbr. Co. 1, 21-12-28, 10-in csg 40 ft, sd 600 ft.

MILLER COUNTY—Joiner et al's (Odell Hinson), Montana Realty Co. 1, ne nw nw 3-17-28, elev 225 ft, top first anhydrite stringer 4510 ft, massive anhydrite 4712 to 4815 ft, base lower stringer 4917 ft, cemtd 7-in csg 5270 ft, sd cur titles, td 5278 ft. C. V. Lenz's Dale 7, 24-15-26, cemtd 7-in csg 4208 ft, woc, td 4216 ft. J. T. Parks et al's Dean et al 1, sw se 24-15-26 (1800 ft south of Lenz's test), spd cmtd 10-in csg 482 ft.

NEVADA COUNTY—Benedum & Trees Oil Co.'s Groves 1, sw sw 10-14-20, elev 353 ft, completed pumping 125 bbls heavy oil and 150 bbls sw daily, td 2190 ft (corrected depth). Groves 2, 10-14-20, gauged 4,970,000 cu ft gas with 335 pounds rock pressure, td 1225 ft; Groves 3, 10-14-20, cemtd 9⅝ in csg 1224 ft, arr pump, td 1243 ft; Block 1, ne ne se 9-14-20, dk. C. C. Fincher 1, nw sw ne, spd dr 1200 ft. Jno. R. Lewis' Wm. Haynie 1, sw sw ne 10-14-20, spd. L. M. Glascoe's Richie 1, nw se 10-14-20, spd, dr 1000 ft. Ritchie 2, 3 and 4, nw se 10-14-20, lcns. Steel & Warnack's Wm. Haynie 1, se se nw 6-14-21, sd 200 ft. Benedum & Trees Oil Co.'s Groves 4, sw nw 10-14-20, mim; Groves 5, ne sw nw 10-14-20, mim; Groves 6, sw ne nw 10-14-20, lcn.

POPE COUNTY—Ark-La. Gas Co.'s L. C. Smith 1, sw sw se 10-8n-21w, 13⅜ in csg 1997 ft, sd 3115 ft.

PULASKI COUNTY — A. L. Kitselman's Fee 1, 2-1s-13w, dr 773 ft slate.

CALIFORNIA

FRESNO COUNTY

CANTUA CREEK — Mohawk Pet. Co.'s Langer 1, 30-16-15, dr shale 6040 ft. Western Gulf's S. P. Land 3, 3-17-15, td 8531 ft, now redr.

KERN COUNTY

LERDO—Arkelo Pet. Co.'s No. 1, 23-28-26, dr sand and shale 6330 ft.

RIO BRAVO—Associated's K.C.L. 1, 30-29-25, td 7683 ft, dr pipe froze, trying to loosen.

LOST HILLS — Associated's Williamson 12-A-3, 11-26-20, sd 1675 ft. Lincoln Pet. Co.'s No. 1, 12-26-20, td 1846 ft, co to plug and test at 1820 ft; Theta 2, 12-26-20, sd 2830 ft. Standard's United 2, 2-26-20, rur. Texas Co.'s Theta 1, 11-26-20, td 2037 ft, plug 1958 ft, testing on pump, 290 bbls water, 15 bbls oil.

SO. MARICOPA—E. A. Bender's Robinson 1, 14-10-23, td 1235 ft, plug 750 ft, pumping water, trace of oil. Trans-Line Pet. Corp.'s No. 1, 3-10-23, spud 11/23, dr.

GREENFIELD — British American's Smith 1-A, 21-31-27, td 1128 ft, wocs 20 in at 1128 ft.

SAN EMIDIO—I. L. Burch's No. 1, 3-10-23, dr shale 1678 ft.

MOUNT POSO—Cal Coast Oil Co.'s No. 1, 36-26-27, dr silty shale 2552 ft.

WASCO—Continental Oil Co.'s K.C.L. A-1, 8-27-24, td 6503 ft, plug with cement at 4550 ft, to stop caving, now dr out cement.

DEVIL'S DEN—Den Pet. Co.'s Bates 1, 20-25-19, dr shale 1492 ft. H. C. and E. A. Long's No. 20-25-19, spud 11/20, dr shale. Lube Oil Co.'s No. 1, 2-25-18, spud 11/25, dr.

JASMINE—Doyle Pet. Corp.'s Quinn 1, 15-25-27, td 2956 ft, clng out.

EAST EDISON—East Edison Oil Co.'s Tejon 1, 21-30-30, td 1130 ft, co; No. 2, 22-30-30, lcn.

ARVIN—General Pet. Corp.'s Arvin 1, 26-31-29, dr sand and shale 7461 ft.

GRAPEVINE—Hall-Baker Co.'s No. T-1, 12-10-19, dr sandy shale 1536 ft. 99 Oil Co.'s Tejon 1, 5-10-19, sd 50 ft. Ohio Oil Co.'s Title Ins. & Trust D-1, 21-11-19, td 5351 ft, tested 5155 to 5306 ft, not conclusive, dr sandy shale. Reserve Oil & Gas Co.'s Ritchie 33-1, 33-11-19, td 6030 ft, plug 5056 ft, swabbing muddy water, showing gas, standing plugged; Tejon 33-2, 33-11-19, td 4505 ft, plug 4414 ft, standing plugged; Tejon 33-3, bldg rig.

MOUNTAIN VIEW — Mohawk Pet. Co.'s Earl Fruit 2, 10-31-29, td 6164 ft, co, standing recemented; Earl Fruit 3, 4-31-29, rig. Shell's Greer 1, 15-31-29, td 6171 ft, plug 6013 ft, swabbed mud and water, scum of oil.

KERN FRONT—Seskayden Oil Co.'s Sesnon 1, 17-28-27, td 2897 ft, pumping 50 bbls 13 gravity oil, cut 18 percent; Sesnon 2, dr sandy shale 1861 ft.

ABBREVIATIONS

The following abbreviations, signs, etc., are used in completions and wildcat reports in THE OIL WEEKLY.

*—*dry hole abandoned well.*	owdd—*old well drilling deeper.*
‡—*salt water (completions).*	owpb—*old well plugging back.*
†—*junked and abandoned.*	pb—*plugged back or plugging back.*
¶—*million feet of gas.*	r—*reaming.*
abd—*abandoned.*	rog—*rig on the ground.*
bbls—*barrels.*	rur—*rigging up rotary tools.*
br—*building rig.*	rust—*rigging up standard tools.*
b.s.—*basic sediment.*	sd—*shut down.*
csg—*casing.*	sdtr—*sidetracking.*
co—*cleaning out.*	sg—*show gas.*
dd—*drilling deeper.*	si—*shut in.*
dk—*derrick.*	so—*show oil.*
dr—*drilling.*	so&g—*show oil and gas.*
fsg—*fishing.*	spd—*spudding.*
ft—*feet.*	sr—*straight reaming.*
hfw—*hole full of water.*	sw—*salt water.*
in—*inches.*	td—*total depth.*
lcn—*location.*	ur—*underreaming.*
m—*milling.*	wih—*water in the hole.*
mim—*moving in materials.*	wo—*workover.*
mit—*moving in tools.*	wocs—*waiting on cement to set.*
mot—*milling on tools.*	wost—*waiting on standard rig.*
n, s, e, w—*north, south, east, west.*	
oih—*oil in hole.*	

TEN SECTION—Standard's K. C. 11-1, 19-29-26, dr gray shale, 7720 ft. Superior Oil Co.'s K.C.L. 8, 11-30-26, coring and testing 7430 ft.

MISCELLANEOUS

ALAMEDA COUNTY—Seaboard Oil Corp.'s Johnson 1, 13-3-3, dr hard shale, 5783 ft.

HUMBOLDT COUNTY—Texas Co.'s Eureka 2, 22-3-1, dr shale 6351 ft.

KINGS COUNTY—Associated's Avenal 2, 35-23-17, bldg roads. A. S. Clare's Laymance 1, 20-20-22, foundation. Milheim Oil Corp.'s Resources 1, 20-22-22, sd 5810 ft.

SAN BENITO COUNTY—Associated's Murphy Ranch 1, 5-12-4, td 4784 ft, fsh.

SAN JOAQUIN COUNTY—Standard's McDonald Island 2, 19-2-5, dr sandy shale 5540 ft.

SOLANO COUNTY—Amerada Pet. Corp.'s Hamilton 1, 26-4-2, dr hard shale 5767 ft; Hoppe 1, 22-4-2, sd 7029 ft.

SUTTER COUNTY—Buttes Oil Fields' No. 4, 2-15-1, dr sandy shale 3210 ft.

TULARE COUNTY—J. W. Alford's Williams 1, 28-16-23, sd 1023 ft. E. P. Jennings' No. 1, 4-24-23, sd 1830 ft. Trico Oil & Gas Co.'s Calif. Western 1, 2-23-23, sd 1800 ft; Callison 1, 27-21-25, sd 3377 ft.

MONTEREY COUNTY—Arnil A. Anderson's No. 1, 15-24-14, rig. Shell's Branch 2, 34-24-10, dr shale 4894 ft. Texas Co.'s Dunphy 1, 30-19-7, bldg rig.

SAN LUIS OBISPO COUNTY — Cholame Synd.'s Jack 2, 10-25-15, td 3648 ft, to test. A. T. Jergins Trust's Indian Knob 1, 26-31-12, dr sand and shale 800 ft. Archie Mayes' No. 1 (Oceano Area), rur. R. W. McBurney's No. 1, 23-32-22, td 2150 ft in sand and shale, 6⅝ in landed at 2150 ft, to test. Union's Porter 1, 22-32-15, dr hard shale streaks sand, 3350 ft. United Foreign Oil Co.'s Panorama 1, 2-32-21, dr hard sand 2310 ft.

SANTA BARBARA COUNTY—El Capitan-Associated's Edwards Estate 1, 2-4-30, dr red Sespe shale streaks sand 2025 ft.

COAL OIL POINT—Bankline Oil Co.'s No. 2, Permit 191, sd 4708 ft.

GATO RIDGE AREA—Barnsdall Oil Co.'s Tognazzini 2, td 1868 ft, cemented 10¾ in at 1800 ft, testing.

SUMMERLAND—Julia Dietzman's Fithian 1, 8-4-25, td 1025 ft, rust.

LOMPOC—O. C. Fields' Santa Rita 1, 11-

discovery well, is being cored at 8096 feet in brown shale with thin streaks of oil sand.

Shell Oil Company's Greer 1, wildcat in the DiGiorgio area, 15 miles southeast of Bakersfield, is being swabbed for production with the fluid level at 4006 feet and is making no showings of oil or gas. Depth is 6171 feet in schist, plugged to 6013 feet. The 5¾-inch water string was cemented at 5720 feet, and 465 feet of four-inch liner, including 441 feet perforated, was landed at 6148 feet. The liner was reperforated at 6007-5746 feet, and 2½-inch tubing was hung 5663 feet prior to the test.

Grapevine Test Inconclusive

Ohio Oil Company's Title Insurance & Trust D-1, wildcat in the Grapevine area, 30 miles south of Bakersfield, is being cored at 5351 feet in sandy shale. The interval 5155-5306 feet was tested with a formation tester without conclusive results. The well is located about two miles north of Reserve Oil & Gas Company's Tejon 33-2, which was recently tested for production in the interval 4444-4490 feet.

Reserve Oil & Gas Company is building derrick for a new test, Tejon 33-3, to be drilled under contract. The location falls 630 feet south of Tejon 33-2 and should be found to be up structure if the regional dip is not interrupted by faulting or folding.

Hall-Baker Company is drilling a core hole, Tejon 1-10, in Section 12-10n-19w, located roughly 1½ miles south and 2¼ miles east of Tejon 33-2, above. Several wells have been drilled in this general vicinity but none has developed commercial production.

Playa Del Rey Outpost Coring

Sharby Oil Company's Michael 1, outpost well east of Playa del Rey oil field, is being cored at 7125 feet in hard black shale. On the basis of the top of the black shale and other data, this well is reported to be correlating 35 feet higher than Eastern Oil Company's Eastern 1, drilled 500 feet to the southwest. On this basis the nodular shale should be encountered at 7233 feet and the oil sand-conglomerate zone at about 7363 feet.

In the East Coyote field, 30 miles southeast of Los Angeles, Armstrong-Babcock-Rowan's May 1 was taken over by Oil Conservation, Ltd., and deepened from 3010 to 3212 feet and is now being abandoned. Oil and gas showings on the ditch were noted 3066-3112 feet but were not considered important.

MICHIGAN
Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
ARENAC COUNTY—		
McClanahan Oil Co.'s Seignious 1, se sw se, 3-20n-4e	990	2506
CLINTON COUNTY—		
St. Louis Pipe Co.'s Harris 1, nw ne sw 14-7n-2w	*	2855
GLADWIN COUNTY—		
Goll, Graves, Mechling's State 1, nw ne sw 30-19n-3e	*	1200
GRATIOT COUNTY—		
Wiser Oil Co.'s Reinsmith 1, c nw ne 3-10n-4w	¶6¼	1006
ISABELLA COUNTY—		
T. F. Caldwell, Inc.'s Beatty 1, ne ne se 21-16n-4w	440	3790
Nolem Oil Co.'s House 4, nw nw nw 21-16n-4w	290	3725
Slentz 3, sw sw sw 23-16n-4w	90	3721
MECOSTA COUNTY—		
W. J. Bernier's Fitzgerald 1, nw nw se 9-13n-9w	*	3629
Taggart Brothers' Waters 1, nw sw se 28-16n-8w	*	3959
Peterson 1, c se se 33-15n-9w	*	1600
MIDLAND COUNTY—		
Pure Oil Co.'s Bond-Root 12, c n½ nw se 3-13n-2w	25	3448
Corning A-4, c s½ sw nw 12-13n-2w	46	3428
Bauman & McCollister's Rayner 1, n½ ne ne 5-13n-2w	*	3670
Roosevelt Oil Co.'s Campbell 10, ne ne nw 17-13n-1w	55	2900
MUSKEGON COUNTY—		
R. C. Lent's Clenk 1, se se sw 12-9n-15w	¶2	1290
Michigan Exploration's Veltman 1, sw sw ne 20-9n-16w	*	2255
OGEMAW COUNTY—		
W. J. Bernier's Weiler 1, ne se sw 14-22n-1e	25	2790
Fortney Oil Co.'s Fisk 1, sw nw ne 28-22n-2e	110	2740
Weber Oil Co.'s Crawford 3, ne ne se 28-22n-2e	190	1780

*Failures; †Junked; ¶Million cu. ft. gas.

WINFIELD TEST SHOWS
If not commercial will stimulate development

WEEKLY STAFF REPORT

Mt. Pleasant, Mich.—Daily Crude Oil Company's Weatherby 1, SW SW SE 20-12n-9w, Winfield township, Montcalm County, failed to show in Dundee lime logged at 3210 feet but after drilling a 100-foot section picked up oil and gas in the top of the Monroe lime at 3311 feet. Deepened to 3312 feet it made a bailer of water per hour but this appeared to be exhausted later and when deepened to 3315 feet test swabbed and flowed 28 barrels on November 30. Well was being tested with possible deepening scheduled this week.

Whether Daily Crude Oil Company's wildcat is made into a commercial producer or not the showing probably will lead to additional development in the area. Several majors and leading independents have blocks in the district. Two years ago a deep test was drilled 1½ miles north which showed but did not prove commercial in Dundee lime.

Mountain Oil & Gas Company's Thompson 1, Section 17-15n-6w, Sherman township, Isabella County, 3½ miles northwest of the Sherman discovery well (Section 34-15n-6w) logged Dundee approximately 67 feet lower than the discovery and went into black water at 3702 feet. It probably will be abandoned. Failure of the test may slow up projected development in the district.

With 19 drilling permits issued this week the total for the year reached a new all time peak of 707 with the previous yearly high made in 1936 when an even 700 starts were authorized. Present rate of new starts may boost the all year figure to 800.

EASTERN FIELDS

WEEKLY STAFF REPORT

Completions

OHIO

Company, Well and Location	Init. Prod. Bbls.	Depth
ASHLAND COUNTY—		
Ohio F. G. Co., Wade Welch 3	¶	2833
Stanislawska 2	*	764
Martha Gramlick 1	¶	2836
WAYNE COUNTY—		
Ohio F. G. Co., S. E. Nussbaum 1	*	4044
Walter Dodez 1	*	4029
MEIGS COUNTY—		
A. N. Mengel, Cora Ator & Co. 1	¶	1137
Bowman & Deem, Jennie Jacks 2	¶	742
Holmes & Co., Edguard Ervin 3	*	2020
Avery Roberts, Clyde Wine 1	¶	1948
WASHINGTON COUNTY—		
Ben Andrews, I. J. Bosworth 1	1	976
HOLMES COUNTY—		
Ohio F. G. Co., Julia Mitten	¶	3346
KNOX COUNTY—		
Sterl Brown & Co., Ross Deal 1	2	655
H. H. Perkins, Thomas Weir 1	*	2448
Ohio F. G. Co., Palmer Beal 1	*	2986
Lem Strickler 1	¶	3033
LORAIN COUNTY—		
Ohio F. G. Co., Charles Schultz 1	¶	2631
LICKING COUNTY—		
Long Producing Co., William Varner 5	53	3038
E. H. Everett Co., F. Montgomery 15	15	2924
COSHOCTON COUNTY—		
Preston Oil Co., T. Underwood 1	¶	3179
TUSCARAWAS COUNTY—		
Ohio Fuel Gas Co., G. Barthlome 1	¶	4294
RICHLAND COUNTY—		
Ohio Fuel Gas Co., Minerva Ward 4	¶	2606
CUYAHOGA COUNTY—		
Bradford & Averill, L. F. McGrath 1	¶	2401
LOGAN COUNTY—		
Hunterville O&G, S. A. Buckingham 1	¶	1403
STRAKE COUNTY—		
Ohio Fuel Gas Co., Eliz Harmont 6	¶	1130
HOLMES COUNTY—		
Ohio Fuel Gas Co., E. E. Lozier 1	*	3161
Albert Burkey 2	*	3236
HURON COUNTY—		
Ohio Fuel Gas Co., Fred Jarrett 1	¶	860
PERRY COUNTY—		
Mid-East Gas Co., W. R. Williams 1	¶	3202
MONROE COUNTY—		
Stout & Shafer, Frank Starkey 2	10	1660

WEST VIRGINIA

KANAWHA COUNTY—		
United Carbon Co., George W. Facemyer 1	¶	4816
West Virginia Gas Co., C. M. and Lizzie Caldwell 3	¶	3936
ELK DISTRICT—		
Hays O&G, John Judy Heirs 1	¶	5174
MONONGALIA COUNTY—		
Carnegie Nat. Gas, L. D. Boyles 1495	¶	2413
RITCHIE COUNTY—		
Carnegie Nat. Gas, Ferrebee Heirs 1	¶	1800
ROANE COUNTY—		
L. C. Young & Co., Herbert White & Co. 1	¶	1699
J. N. Hawkins 1	*	1893
FAYETTE COUNTY—		
Godfrey L. Cabot, Inc., Kanawha Garba Coal Co. 8	¶	2069
BOONE COUNTY—		
O. B. Cunningham & Co., J. T. Ferrel 1	¶	1043
MONROE COUNTY—		
H. B. Walker & Co., Louisa Short 1	¶	1490
WASHINGTON COUNTY—		
G. T. Gale & Co., G. T. Gale Lot 1	4	952
Alford McKitrick, McKitric 1	2	1420

KENTUCKY

McLEAN COUNTY—		
Clark Snyder, E. Price 1	*	....
B. B. Oil Co., Strand Farm 1	*	....
Sunflower Oil Co., Judge Newton 1	*	....
Major Oil Co., First Baptist Church Lot 1	*	....
Kentucky Prod. Co., Hicks Lot 1	35	....
Troy Refining Co., H. L. Downs 1	35	....
OHIO COUNTY—		
R. H. Graham Pet. Exploration Co. 13	35	....
Guy Richards, Lowman & Co. 3	*	....

*Failures; †Junked; ¶Million cu. ft. gas.

THE OIL WEEKLY REPORT ON IMPORTANT

Wildcat Tests

ALABAMA

HOUSTON COUNTY — Rice O&G Co.'s Oakley Est. 2, nw sw 9-3n-29e, elev 191 ft, installing heavier rig to deepen, td 4002 ft.

MOBILE COUNTY — Grand Bayou O&G Co.'s J. A. Stafford 1, sw sw 24-7s-3w, lcn.

ARKANSAS

BRADLEY COUNTY—Phillips Pet. Co. & Joe Modisett's Brown 1, ne nw 28-16-12, elev 90 ft, top red beds 2829 ft, top Permian lime 4880 ft, cored lime showing sw 4880-4900 ft, dry abnd, td 5196 ft.

CALHOUN COUNTY—I. B. P. Oil Corp.'s Henisberger 1, sw se 9-11-13, elev 207 ft, sd 1470 ft.

COLUMBIA COUNTY — J. C. Buckbee, Tr.'s Cumbie 1, 17-17-18, no report. King Oil Corp.'s Fullenwider & Kitchen 2, se nw 13-17-22, top Nacatosh 1915 ft, dr 3820 ft lime.

CLARK COUNTY—J. G. Wooten's Sparkman 1, 1-11-20, no report.

CLEVELAND COUNTY—Diffie et al's L. C. Ross 1, sw ne 1-11-11, sd 100 ft. R. L. Saxon's L. C. Tipton 1, sw ne 13-11-12, elev 207.4 ft, rur. J. R. Lockhart's I. Robertson 1, sw se 36-10-11, dr 2984 ft shale.

DALLAS COUNTY—Walter Lown's Atkinson 1, ne nw se 7-10-13, claim so in sand, sd curing title, td 2418 ft sand.

GRANT COUNTY—Wallace & Staples' W. F. Davis 1, se se nw 23-6-15, fsg 1860 ft.

HEMPSTEAD COUNTY—H. D. Easton et al's Conway-Tiller 2, sw sw 34-12-27, elev 251 ft, arr deepen, td 3005 ft. Root Pet. Co.'s Jones 1, ne sw ne 16-13-23, spd woc 13-in surf csg.

LITTLE RIVER COUNTY—M. E. Sanderson's Penning 1, ne ne sw 6-13-30, sd 168 ft. Joe Strahan's Dierks Lbr. Co. 1, 21-12-28, 10-in csg 40 ft, sd 600 ft.

MILLER COUNTY—Joiner et al's (Odell Hinson), Montana Realty Co. 1, ne nw nw 3-17-28, elev 225 ft, top first anhydrite stringer 4510 ft, massive anhydrite 4712 to 4815 ft, base lower stringer 4917 ft, cemtd 7-in csg 5270 ft, sd cur titles, td 5278 ft. C. V. Lenz's Dale 7, 24-15-26, cemtd 7-in csg 4208 ft, woc, td 4216 ft. J. T. Parks et al's Dean et al 1, sw se 24-15-26 (1800 ft south of Lenz's test), spd cmtd 10-in csg 482 ft.

NEVADA COUNTY—Benedum & Trees Oil Co.'s Groves 1, sw sw 10-14-20, elev 353 ft, completed pumping 125 bbls heavy oil and 150 bbls sw daily, td 2190 ft (corrected depth). Groves 2, 10-14-20, gauged 4,970,000 cu ft gas with 335 pounds rock pressure, td 1225 ft; Groves 3, 10-14-20, cemtd 9⅝ in csg 1224 ft, arr pump, td 1243 ft; Block 1, ne ne se 9-14-20, dk. C. C. Fincher 1, nw sw ne, spd dr 1200 ft. Jno. R. Lewis' Wm. Haynie 1, sw sw ne 10-14-20, spd. L. M. Glascoe's Richie 1, nw se 10-14-20, spd, dr 1000 ft. Ritchie 2, 3 and 4, nw se 10-14-20, lcns. Steel & Warnack's Wm. Haynie 1, se se nw 6-14-21, sd 200 ft. Benedum & Trees Oil Co.'s Groves 4, sw nw 10-14-20, mim; Groves 5, ne sw nw 10-14-20, mim; Groves 6, sw ne nw 10-14-20, lcn.

POPE COUNTY—Ark-La. Gas Co.'s L. C. Smith 1, sw sw se 10-8n-21w, 13⅜ in csg 1997 ft, sd 3115 ft.

PULASKI COUNTY — A. L. Kitselman's Fee 1, 2-1s-13w, dr 773 ft slate.

CALIFORNIA

FRESNO COUNTY

CANTUA CREEK — Mohawk Pet. Co.'s Langer 1, 30-16-15, dr shale 6040 ft. Western Gulf's S. P. Land 3, 3-17-15, td 8531 ft, now redr.

KERN COUNTY

LERDO—Arkelo Pet. Co.'s No. 1, 23-28-26, dr sand and shale 6330 ft.

RIO BRAVO—Associated's K.C.L. 1, 30-29-25, td 7683 ft, dr pipe froze, trying to loosen.

LOST HILLS — Associated's Williamson 12-A-3, 11-26-20, sd 1675 ft. Lincoln Pet. Co.'s No. 1, 12-26-20, td 1846 ft, co to plug and test at 1820 ft; Theta 2, 12-26-20, sd 2830 ft. Standard's United 2, 2-26-20, rur. Texas Co.'s Theta 1, 11-26-20, td 2037 ft, plug 1958 ft, testing on pump, 290 bbls water, 15 bbls oil.

SO. MARICOPA—E. A. Bender's Robinson 1, 14-10-23, td 1235 ft, plug 750 ft, pumping water, trace of oil. Trans-Line Pet. Corp.'s No. 1, 3-10-23, spud 11/23, dr.

GREENFIELD — British American's Smith 1-A, 21-31-27, td 1128 ft, wocs 20 in at 1128 ft.

SAN EMIDIO—I. L. Burch's No. 1, 3-10-23, dr shale 1678 ft.

MOUNT POSO—Cal Coast Oil Co.'s No. 1, 36-26-27, dr silty shale 2552 ft.

WASCO—Continental Oil Co.'s K.C.L. A-1, 8-27-24, td 6503 ft, plug with cement at 4550 ft, to stop caving, now dr out cement.

DEVIL'S DEN—Den Pet. Co.'s Bates 1, 20-25-19, dr shale 1492 ft. H. C. and E. A. Long's No. 20-25-19, spud 11/20, dr shale. Lube Oil Co.'s No. 1, 2-25-18, spud 11/25, dr.

JASMINE—Doyle Pet. Corp.'s Quinn 1, 15-25-27, td 2956 ft, clng out.

EAST EDISON—East Edison Oil Co.'s Tejon 1, 21-30-30, td 1130 ft, co; No. 2, 22-30-30, lcn.

ARVIN—General Pet. Corp.'s Arvin 1, 26-31-29, dr sand and shale 7461 ft.

GRAPEVINE—Hall-Baker Co.'s No. T-1, 12-10-19, dr sandy shale 1536 ft. 99 Oil Co.'s Tejon 1, 5-10-19, sd 50 ft. Ohio Oil Co.'s Title Ins. & Trust D-1, 21-11-19, td 5351 ft, tested 5155 to 5306 ft, not conclusive, dr sandy shale. Reserve Oil & Gas Co.'s Ritchie 33-1, 33-11-19, td 6030 ft, plug 5056 ft, swabbing muddy water, showing gas, standing plugged; Tejon 33-2, 33-11-19, td 4505 ft, plug 4414 ft, standing plugged; Tejon 33-3, bldg rig.

MOUNTAIN VIEW — Mohawk Pet. Co.'s Earl Fruit 2, 10-31-29, td 6164 ft, co, standing recemented; Earl Fruit 3, 4-31-29, rig. Shell's Greer 1, 15-31-29, td 6171 ft, plug 6013 ft, swabbed mud and water, scum of oil.

KERN FRONT—Seskayden Oil Co.'s Sesnon 1, 17-28-27, td 2897 ft, pumping 50 bbls 13 gravity oil, cut 18 percent; Sesnon 2, dr sandy shale 1861 ft.

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SAN JOAQUIN COUNTY—Standard's McDonald Island 2, 19-2-5, dr sandy shale 5540 ft.

SOLANO COUNTY—Amerada Pet. Corp.'s Hamilton 1, 26-4-2, dr hard shale 5767 ft; Hoppe 1, 22-4-2, sd 7029 ft.

SUTTER COUNTY—Buttes Oil Fields' No. 4, 2-15-1, dr sandy shale 3210 ft.

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SANTA BARBARA COUNTY—El Capitan-Associated's Edwards Estate 1, 2-4-30, dr red Sespe shale streaks sand 2025 ft.

COAL OIL POINT—Bankline Oil Co.'s No. 2, Permit 191, sd 4708 ft.

GATO RIDGE AREA—Barnsdall Oil Co.'s Tognazzini 2, td 1868 ft, cemented 10¾ in at 1800 ft, testing.

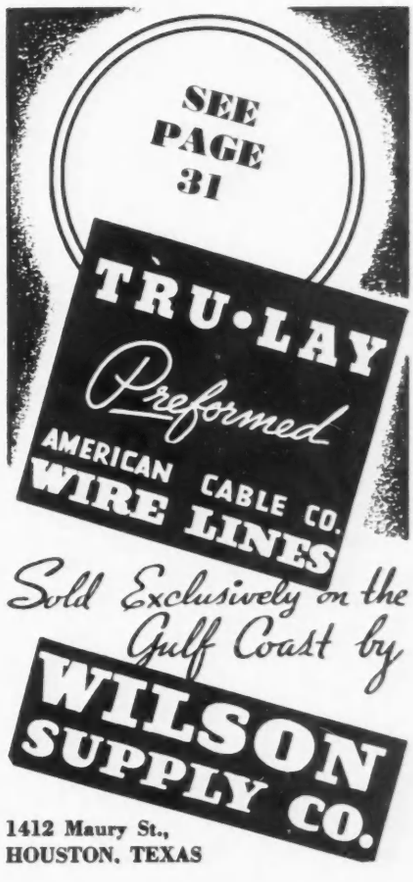
SUMMERLAND—Julia Dietzman's Fithian 1, 8-4-25, td 1025 ft, rust.

LOMPOC—O. C. Fields' Santa Rita 1, 11-

ABBREVIATIONS

The following abbreviations, signs, etc., are used in completions and wildcat reports in THE OIL WEEKLY.

*—*dry hole abandoned well.*
‡—*salt water (completions).*
†—*junked and abandoned.*
¶—*million feet of gas.*
abd—*abandoned.*
bbls—*barrels.*
br—*building rig.*
b.s.—*basic sediment.*
csg—*casing.*
co—*cleaning out.*
dd—*drilling deeper.*
dk—*derrick.*
dr—*drilling.*
fsg—*fishing.*
ft—*feet.*
hfw—*hole full of water.*
in—*inches.*
lcn—*location.*
m—*milling.*
mim—*moving in materials.*
mit—*moving in tools.*
mot—*milling on tools.*
n, s, e, w—*north, south, east, west.*
oih—*oil in hole.*
owdd—*old well drilling deeper.*
owpb—*old well plugging back.*
pb—*plugged back or plugging back.*
r—*reaming.*
rog—*rig on the ground.*
rur—*rigging up rotary tools.*
rust—*rigging up standard tools.*
sd—*shut down.*
sdtr—*sidetracking.*
sg—*show gas.*
si—*shut in.*
so—*show oil.*
so&g—*show oil and gas.*
spd—*spudding.*
sr—*straight reaming.*
sw—*salt water.*
td—*total depth.*
ur—*underreaming.*
wih—*water in the hole.*
wo—*workover.*
wocs—*waiting on cement to set.*
wosr—*waiting on standard rig.*



AGENCY	Established
Long Beach	1929
Taft	1931
Oklahoma City	1931
Bakersfield	1933
Houston	1933
Kilgore	1933
Wichita	1934
Lyons	1934
Pampa	1935
Odessa	1935
Lake Charles	1936
Ventura	1936

The above is a list of Cavins branches and agencies, and the year each was established; showing the rapidly increasing use of Cavins Bailers throughout domestic oil fields.

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Taft, California
Ventura, California
Odessa, Texas, Phone 235
Houston, Texas
Kilgore, Texas
Pampa, Texas
Oklahoma City, Oklahoma
Wichita, Kansas
Lyons, Kansas
Lake Charles, Louisiana

7-33, sd 2064 ft, to drop from report. Top Row Oil Co.'s Spanne 1, 6-35, sd 1310 ft.

BETTERAVIA—E. H. Moore's Union Sugar A-1, 25-10-35, td 8020 ft, to set 6⅝ in at 7676 ft.

POINT CONCEPTION—101 Oil Co.'s Hollister 1, td 250 ft, wocs, 13 in on bottom.

GATO RIDGE—Petrol Corp.'s Tognozzini 1, 9-8-3, grading road.

SANTA MARIA—W. D. Shaffer's Houk 1, 9-9-3, rur.

VENTURA COUNTY

RED MOUNTAIN—Continental Oil Co.'s Casitas 1, 7-3-23, dr hard shale and sand 2611 ft.

OXNARD—Vaca Explor. Co.'s Calif. Lands 1, 6-1-21, td 2830 ft, plug 2150 ft, bailing heavy oil.

VENTURA—Ventura Explor. Co.'s Sexton 1, 30-3-22, sd 9525 ft.

SESPE CREEK—Wasibi Oil Co.'s Speik 1, 35-5-19, dr hard shale 1210 ft.

SOUTHERN CALIFORNIA

NEWHALL—Barnsdall Oil Co.'s Rancho S. F. 1, 26-4-17, dr hard shale streaks sand 5270 ft. Holbrook Pet. Co.'s Newland L. & F. Co. 1, 28-4-16, dr hard shale 4018 ft.

LYNWOOD—Calizo Oil Co.'s Saulque 1, 9-3-13, td 3920 ft, milling on junk.

LOS ALAMITOS—Calmont Oil Co.'s Montana 1, 14-4-12, lcn.

NO. LONG BEACH—Geo. L. Clayton's No. 1, 32-3-12, wocs 11¾ in at 800 ft, bottom.

GARDENA—Crude Oil Dr. Co.'s No. 1, 31-3-13, td 5490 ft, plug 865 ft, sd to drop from report. Standard's Bodger 1, 22-3-14, dr shale 7535 ft. Universal Cons. Oil Co.'s Carrell 1, 36-3-14, dr hard shale 4820 ft. West American Oil Co.'s Dominguez Estates 5, 5-4-13, td 6595 ft, plug 720 ft, redr to 5560 ft, abn.

EAST WHITTIER—Drillers, Inc.'s No. 1, 22-2-11, rur.

WALNUT—Julian & Criswell's No. 1, 5-2-9, dr hard sand 630 ft.

TORRANCE—Oliver McDowell's No. 1, 35-3-14, sd 7210 ft, to drop from report.

ASCOT SPEEDWAY—Republic Pet. Co.'s Jordan 1, 24-1-13, td 1320 ft, ran formation tester, 1400-1486 ft, shale and oil sand, to test.

DAVIDSON CITY—Shell's Flood Control 1, 11-4-13, sd 4307 ft.

ROSECRANS—Shell's McKinley 1, 20-3-13, rur.

HAWTHORNE — Signal Finance Corp.'s Woods 1, 10-3-14, td 9320 ft, waiting on tubing.

FOX HILLS—Superior Oil Co.'s Inglewood Ext. 1, 25-2-15, dr shale 8887 ft.

ORANGE COUNTY — Calif. Eastern Oil Co.'s Verde 1, 31-3-9, td 4750 ft, fsh. Mesa Oil Co.'s No. 1, 29-6-10, dr hard shell 3481 ft. West Coast Ref. Co.'s Yorba 1, 25-3-9, dr 2319 ft, brown shale, no showings.

SAN BERNARDINO COUNTY—Equitable Pet. Explor. Co.'s No. 1 (near Barstow), 11-10-5, td 3032 ft, swabbing. Tehama Pet. Co.'s Kraemer-Backs 2, 33-2-8, dr hard shale 1220 ft. Pellisier 1, 4-3-8, dr hard shale 1308 ft.

FLORIDA

LAKE COUNTY—Oil Dev. Co. of Fla.'s Gulf Explo. Co. 2, se se 17-24s-25e, elev 120 ft, coring 5654 ft.

NASSAU COUNTY—St. Mary's River Oil Corp.'s Hilliard Turpentine Co. 1, nw ne se 19-4n-24e, elev 110 ft, cemtd 12½ in csg 822 ft.

POLK COUNTY — Edw. A. Hill's Polk County Lbr. Co. 1, nw ne 32-25s-25e, elev 90 ft, dk.

KANSAS

BARBER COUNTY—Sinclair Prairie's Gentry 1, ne ne ne 1-33s-15w, td 5529 ft, woc. Pure's Palmer 1, se ne sw 10-33s-10w, dr 2000 ft.

BARTON COUNTY—Brouk et al's Keil 1, se se ne 11-16s-15w, testing. C. L. Price's Deutsch 1, nw nw ne 16-16s-13w, testing 3375 ft. Minnehoma O&G Co.'s Smith 1, nw nw ne 20-18s-13w, dr 455 ft. Duee & Brouk's Baker 1, ne se sw 16-17s-13w, ru. Freehorn et al's Sooy 1, nw nw ne 27-18s-12w, rig. John Burton's Wendel 1, ne ne ne 13-19s-11w, dr 1615 ft. I. T. I. O. Co.'s Schrepel 1, se se ne 26-20s-11w, lcn.

BUTLER COUNTY—Simpson Oil Co.'s Deblem 1, sw sw sw 11-26s-6e, abd 3292 ft. Hutchinson O&G Co.'s Westfall 1-A, se sw se 13-27s-3w, abd 3040 ft. Wixon et al's Coulter 1, nw sw ne 3-27s-7e, dr 345 ft. Solomon's Church 1, sw ne se 8-28s-5e, abd 200 ft.

CHASE COUNTY—Hanna et al's Brothers 1, se se nw 25-20s-8w, rig. Propp et al's Fromm 1, se se se 29-18s-9e, set 6-in csg 2415 ft.

COWLEY COUNTY — Home Natural Gas & McNish's Werner 2, se se sw 31-32s-6e, testing 3079-3084 ft. Croft et al's Whitson 1, ne ne ne 20-33s-4e, abd 50 ft. Wakefield et al's Tinker 1, nw nw se 26-32s-3e, set 8-in csg 2240 ft. Tom Palmer's Pierce 1, se se sw 14-31s-3e, rur. Austin & McKnabb's Wilson 1, ne ne se 20-32s-6e, rig. Simpson and Stanolind's Weigle 1, sw sw ne 18-31s-6e, br. C. H. Cross' Cook 1, sw sw sw 6-32s-6e, spud.

EDWARDS COUNTY—Stanolind and Elwell's Donovan 1, cse se 14-25s-18w, set 5-in csg 4590 ft.
Glick & McMorrow's Staab 1, sw sw se 6-13s-

ELLIS COUNTY—Empire's Samuelson 1, ne ne sw 31-11s-16w, ur 5-in csg. Ted Kerr et al's Koblitz 1, se sw nw 23-12s-18w, dr 3555 ft. 17w, dr 3520 ft. Taylor et al's Emery 1, ne ne ne 23-14s-18w, testing 3570 ft. Murphy Oil Co.'s Wiesner 1, se se sw 12-14s-19w, woc 815 ft. Jones Bros. et al's Phillip 1, se se nw 9-15s-17w, dr 850 ft. Lario O&G Co.'s Cress 1, ne ne ne 13-11s-17w, dr 1680 ft. Loomis & Etyner's O'Laughlin 1, se se nw 27-13s-18w, rot rig.

GRANT COUNTY—Columbian Fuel Co.'s Gray 1, cse 3-29s-35w, co.

GREENWOOD COUNTY—Estes et al's Edgar 1, nw nw se 1-28s-8e, ur 10-in csg 1165 ft. Scott et al's Pedroja 1, se ne se 6-26s-10e, flow 300 bbls oil, 48 hrs. Holis et al's Boone 1, ne ne nw 21-26s-12e, mim.

HARVEY COUNTY—Harburney Oil Co.'s Schragg 1, nw nw se 24-22s-3w, sd 3350 ft. Saco et al's Guthrie 1, ne ne nw 8-22s-2e, co 2000 ft.

KEARNEY COUNTY—J. L. Murphy et al's Campbell 1, nw nw sw 32-25s-35w, td 3595 ft.

LINCOLN COUNTY — Graham et al's Smiley 1, ne nw nw 26-10s-9w, abd 300 ft.

LOGAN COUNTY—Rosespring Drlg. Co.'s Wright 1, cse se 12-15s-35w, dr 2880 ft.

LYON COUNTY—Clyde Fred et al's Bruce 1, nw nw nw 13-18s-10e, ru mach.

MARION COUNTY—Western Kansas O&R Co.'s Hauser 1, sw sw sw 19-19s-4e, dr 1280 ft. Harwood Oil et al's Mott 1, ne ne ne 2-17s-4e, abd 2361 ft.

MITCHELL COUNTY—Geo. Siedhoff et al's Greiss 1, sw sw se 16-8s-10w, dr 450 ft.

NESS COUNTY—Newton Dev. Co.'s Tenny 1, nw nw se 19-18s-25w, sd 2450 ft. Sayre Oil et al's Ryersee 1, cne se 34-18s-21w, dr 4458 ft.

PAWNEE COUNTY — Kessler & Their's Shea 1, ne ne ne 22-21s-17w, dr 3604 ft.

PRATT COUNTY—H. V. Elwell et al's Fay 1, nw nw se 15-27s-14w, dr 3400 ft.

RENO COUNTY—Miller et al's Detter 1, ne se nw 28-22s-7w, co 3420 ft. Foraker et al's Hiett 1, se sw ne 34-24s-4w, fsg 3685 ft. Clyde Pulse et al's Payne 1, sw nw ne 4-22s-7w, sd 1940 ft. Inca Prod. Corp.'s Moore 1, cne ne 26-24s-3w, sd 2860 ft. Empire's Schrock 1, nw nw ne 22-24s-5w, dr 689 ft. Westgate-Greenland Oil Co.'s Fossey 1, sw sw se 12-22s-8w, rust 3062 ft.

RICE COUNTY—Carlock et al's Deweese 1, sw nw nw 32-20s-7w, testing 3320 ft. Shell's Soenken 1-A, cnw 10-19s-9w, testing 3309 ft. Aylward et al's Johnson 1, nw nw ne 17-21s-7w, dr 3070 ft. I. T. I. O. Co.'s Fossey 1, sw sw ne 31-20s-10w, ru. Charles Pet. Corp.'s Speck 1, nw nw se 29-20s-8w, dr 635 ft. Permian Oil Co.'s Monroe 1, cne ne 9-20s-7w, owdd, rur 8-in csg 2840 ft.

ROOKS COUNTY—L. C. D. Drlg. Co.'s Westhusin 1, cne se 11-19s-17w, pump 504 bbls oil 3243 ft. J. A. Shoemake's Stebbins 1, ne ne sw 26-7s-17w, testing. Buckner & Schoff's McConnell 1, ne ne ne 34-6s-18w, set 10-in csg 1410 ft. Empire's Ham 1, sw nw nw 24-8s-19w, dr 2800 ft. Jarvis & Strickland's Hamel 1, se se sw 7-8s-20w, dr 3035 ft. Snowden & McSweeney's Hindman 1, ce¼ nw 35-7s-17w, rig. Graham et al's Fike 1, sw sw sw 9-9s-17w, rur.

RUSH COUNTY—Sheedy et al's Bison 1, sw sw sw 35-16s-17w, abd 3700 ft. Schoenfeld & Kitch's Winget 1, se se se 15-16s-16w, set 12-in csg 1059 ft. H. M. Piggott et al's Maresch 1, cnw nw 28-19s-19w, lcn.

RUSSELL COUNTY—Empire's Frederick 1, se se se 18-15s-11w, co 385 ft. Equity Gas Co.'s Harbauk 1, nw ne sw 19-13s-12w, dr 445 ft. Joe Aylward et al's McAllister 1, ne ne se 9-12s-13w, abd 3568 ft.

SALINE COUNTY—James Brouk et al's Othelander 1, ne nw se 10-16s-13w, dr 2800 ft.

SEDGWICK COUNTY—Lauck's McLean 1, csw se 1-27s-1w, dr 4555 ft. R. J. Wallace et al's Sheer 1, sw sw sw 22-27s-3w, co 4285 ft. Cameron et al's Smith 1, sw se se 13-27s-2e, spd, sd.

SEWARD COUNTY—Helmerich & Payne's Hyde 1, csw 14-31s-34w, ru.

SHERIDAN COUNTY—O. A. Roberts et al's Corrick 1, cnw 34-9s-26w, td 255 ft, woc.

SMITH COUNTY—Helmerich & Payne et al's Meyer 1, ne ne sw 10-5s-11w, dr 3675 ft.

STAFFORD COUNTY—Skelly's Kipp 1, se se ne 27-25s-14w, ur 6-in csg 4097 ft. C. E. Skiles et al's Leidigh 1, nw nw sw 21-22s-11w, dr 3262 ft. Empire's Jordan 1, sw sw nw 15-

25s-14w, 2900 ft oih 15½ hrs. Skiles et al's Hughes 1, sw sw sw 12-23s-12w, dr 175 ft. Atlantic et al's Davis C-46 1, se se sw 32-23s-12w, dr 2535 ft. Lebow et al's Wolf 1, se sw nw 3-21s-12w, woc.

SUMNER COUNTY—Rosespring's Rutter 1-A, cnw nw 21-33s-2e, set 8-in csg 3225 ft. W. C. McBride & Olson's Kinlund 1, ne nw ne 24-34s-1e, cor 3894 ft. Empire's Hoffman 1, nw nw sw 27-34s-1e, set 10-in csg 2230 ft. Graham et al's Dawson 1, nw nw nw 4-33s-2w, dr 2690 ft. Lario et al's Hall 1, nw sw nw 11-35s-1e, dr 615 ft. Lloyd, Frost, Study et al's Fee 1, se se se 31-34s-1e, rur.

TREGO COUNTY—York State Oil Co.'s Gugler 1, sw sw sw 36-12s-21w, pb 3832 ft, woc. Black Gold Co.'s Allman 1, csw sw 34-14s-21w, lcn.

WOODSON COUNTY — Dunn & Lewis' Dawson 2, cne ne 27-26s-13e, sd 1100 ft. Dwyer et al's Wolf 1, ne ne sw 9-24s-14e, dr 1340 ft.

SOUTH LOUISIANA

ACADIA PARISH—Humble's Nordyke 1, Ebenezer prospect, 23-10s-1e, dr shale 2155 ft. Superior Oil Prod. Co.'s Savoy 2, Bayou Mallet area, 47-7s-1e, dk.

AVOYELLES PARISH—Coastal Minerals Dev. Co.'s Haas 1, 25-2n-3e, lcn.

CALCASIEU PARISH—Union Sulphur's M. P. Irwin 1, se of Lake Charles, 10-10s-8w, dr shale 3727 ft.

CAMERON PARISH — Magnolia's School Land 1, Johnson Bayou prospect, 16-15s-14w, aban 9180 ft; same operator's R. Le Bleau 1, Big Lake area, 13-12s-8w, abn 8313 ft. Pure's State 1, Mallard Bay prospect, 22-13s-3w, dr brittle shale 6698 ft.

EAST BATON ROUGE PARISH—Cavalier Oil Co.'s Vignes 1, ne of Hope Villa, 40-8s-2e, sd 6623 ft. Louisiana Crusaders Oil Co.'s L. S. U. 1, University Block, 67-7s-1w, dr shale 4576 ft.

IBERIA PARISH—Jefferson Lake Oil Co.'s Lake Peigneur 409, Jefferson Lake, 12s-5e, abn 6947 ft. Texas Co.'s State 2, Fausse Point area, 35-11s-8e, setting csg 6444 ft; same operator's State Vermilion Bay 1, in Vermilion Bay, 16s-5e, dr shale 9309 ft.

IBERVILLE PARISH — Humble's Wilbert 1, Bayou Blue area, 67-9s-11e, dr shale 3929 ft.

JEFFERSON PARISH—Triangle Oil Co.'s Carroll 1, 125-12s-11e, dr grey sand 1949 ft.

JEFFERSON DAVIS PARISH — Shell's Sturdevant 1, South Roanoke prospect, 25-10s-4w, changing blow out preventer 9749 ft.

LAFOURCHE PARISH—Wm. Helis's City of New Orleans 1, Marchland prospect, 19-23s-23e, dr hard sand 5190 ft. Pan American's Harange 1, Valentine prospect, 7-17s-20e, dr shale 1550 ft.

PLAQUEMINES PARISH—Gulf's State 1, in Bay Adams, 32-19s-28e, dr shale 2247 ft. Tide Water's Manhanttan Fruit Co. 2, Venice dome, 26-21s-30e, dr shale 4579 ft.

ST. BERNARD PARISH—Gulf's State 1, Lake Lery area, 28-14s-14e, dr shale 2215 ft.

ST. JAMES PARISH—Shell's Colonial Sugar 2, Hester prospect, 5-12s-5e, dr shale 7976 ft.

ST. LANDRY PARISH—Stanley Thompson's Lewis 1, ne of Port Barre, 29-5s-6e, dr shale 5225 ft. Superior Oil Producing Co.'s A. Savoie 1, ne of Bosco, 26-8s-2e, dr shale 8750 ft.

ST. MARTIN PARISH—Shell's Hefea Land Co. 1, Arnaudville area, 38-8s-5e, dr shale 5130 ft. Texas Co.'s State 3, Lake Mongouloi prospect, 14-10s-9e, lcn.

ST. MARY PARISH—Texas Co.'s Bayou Sale 1, Wax Lake prospect, 40-17s-9e, fsh 8798 ft.

TERREBONNE PARISH—Humble's Elender 1, Houma Gas field, 23-19s-19e, dr shale 8563 ft. Shell's Realty Operators 1-B, 11 mi w of Houma, 18-17s-15e, ru.

VERMILION PARISH—Continental's Hebert 1, Abbeville prospect, 20-12s-3e, dr shale 11,642 ft. Stanolind's Fred Stovall 1, South Abbeville or Inter coastal prospect, 89-14s-3e, dr shale 8890 ft.

NORTH LOUISIANA

BIENVILLE PARISH—Lide,Greer et al's J. D. Smelley 1, se sw ne 13-16n-5w, spd. De-Soto O&G Co.'s Dunn & Olsen 1, n½ nw 15-16n-10w, elev 259 ft, so lime 3436 ft, massive anhydrite 3985-4217 ft, base stringer 4276-4301 ft, sw sand 4224-44 ft, 20 joints sw 4280-4462 ft, sd 4462 ft. McDowell et al's Locke 1, ne nw ne 9-15n-9w, dr 1100 ft shale. Texas-Seaboard Oil Corp.'s McGee 1, 3-16n-6w, co to deepen, td 5905 ft.

BOSSIER PARISH—Ark. La. Gas Co.'s Davis 1, 8-17n-11w, spd dr 1295 ft; Potter 1, 8-17n-11w, rur. United Gas' Skannal G-1, se ne 22-17n-12w, elev 187 ft, 95s in csg 3255 ft, massive anhydrite 3935-4160 ft, base stringer anhydrite 4239 ft, coring 5109 ft.

CADDO PARISH—Ferguson & Co.'s Huckabay 1, 22-22n-16w, dk. Gulf's E. P. Hatcher 1, 11-17n-15w, elev 269 ft, top Travis Peak 5998 ft, dr 7249 ft, hd gray sand.

CLAIBORNE PARISH—E. T. Oakes' Patton Est. 2, ne ne 1-20n-5w, elev 357 ft, 7-in csg 5007 ft, cored oolitic lime, so&g 5359-79 ft, arr set 5 3/16 in csg at 5310 ft, td 5379 ft. Sugar Creek Synd.'s Darrett 2, se sw 31-20n-5w, 7-in csg 5480 ft, pb to 5703 ft from old td 8616 ft, completed as 20 mil ft gasser; Taylor 1, 5-19n-5w, top stringer anhydrite 4032 ft, top massive anhydrite 4272 ft, top Travis Peak 5702 ft, dry in test at 5718-5809 ft, pb to 4800 ft, arr test, old td 5927 ft. Max Hirsch et al's C. O. Ferguson 1, nw sw 29-22n-6w, rur.

CATAHOULA PARISH—C. P. Brown's T. J. Chisum 1, 19-10n-8e, mir.

DE SOTO PARISH—Sundby et al's Garland 1, se nw 7-14n-14w, elev 300 ft, base Annona chalk 2095 ft, top Tokio 2582 ft, dr 2714 ft gummy shale. Julian-Igoe Synd.'s Hallie Smith 1, se se 31-14n-15w, lcn. Grogan et al's Ramsey 1, 36-11n-11w, hole clean arr deepen, td 1780 ft. Sanders et al's L. N. Allison 1, nec 17-14n-13w, mir. R. C. Payne's Harris 1, 11-13n-14w, reaming to bottom, td 2916 ft sand. Pearl Oil Corp.'s Joyner 1, se nw sw 28-11n-12w, dr 1310 ft. Grady Vaughn et al's Sample 1, 24-11n-14w, rur (5500 ft test).

FRANKLIN PARISH — Sherrouse & Snyder's Kimble 1, ne se sw 36-12n-8e, elev 65 ft, 12½ in csg 250 ft, base Jackson 684 ft, so&g 1500 ft, dr 2725 ft (Cane River). S. C. Jensen's Bailey 1, c se nw 12-11n-6e, pb to 1200 ft, tested sg, sd, old td 2285 ft.

GRANT PARISH—H. Weir's McQuin 1, 10-7n-3w, lcn.

NATCHITOCHES PARISH — Natchitoches Oil Co.'s J. S. Simpson 1, 12-7n-7w, sd 1350 ft. Lent et al's Locke 1, se sw 26-9n-9w, sd 30 ft. Union Pet. Co.'s DeBlieux 2, 83-10n-7w, sd 3951 ft chalk.

RED RIVER PARISH — Hunter et al's Long-Bell Lbr. Co. 1, ne ne 19-13n-9w, 7-in csg 3696 ft, sdtr, old td 3734 ft.

RICHLAND PARISH—Gulf's R. R. Rhymes 15, nw se ne 32-17n-6e, elev 87 ft, top anhy-

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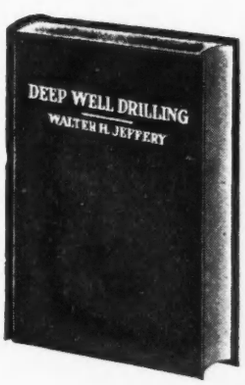

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drite 2936 ft, base red beds 6380 ft, 7-in csg 8040 ft, testing csg, td 8113 ft, red sand.

SABINE PARISH—Earl F. Fox's L. B. Blankenship 1, 13-9n-12w, mim. Whitehurst et al's Whitney Corp. 1, c nw ne 8-9n-13w, sd 5503 ft. Luther Swift's Long-Bell Lbr. Co. 1, 11-8n-14w, dk.

WEBSTER PARISH—Ohio Oil Co.'s Bodcaw Lbr. Co. 1, c ne se 28-21n-10w, elev 234.8 ft, top anhydrite stringer 3969 ft, top massive anhydrite 4225 ft, base anhydrite stringer 4546 ft, dr 7510 ft; R. M. Coyle 1, c ne se 22-21n-10w, elev 215.8 ft, massive anhydrite 4119-4359 ft, dr 7353 ft. United's Nixon 1, 22-21n-10w, elev 230 ft, top massive anhydrite 4195 ft, top Travis Peak 5585 ft, hole clean, dr 6934 ft. C. V. Davis 2, c nw nw 23-21n-10w, dr 6910 ft. Magnolia's Cox 1, 23-21n-10w, 9⅝ in csg 6477 ft, dr 6925 ft. R. W. Norton's Fee 1, 27-21n-10w, mim. Woodley Pet. Co.'s L. C. Cox 1, 28-21n-10w, top massive anhydrite 4144 ft, dr 5154 ft. Seaboard Oil Corp.'s Cotton Valley L& T Co 1, nw sw 35-22n-10w, elev 200 ft, 20-in csg 262 ft, 15-in csg 1237 ft, massive anhydrite 4530-4735 ft, lower anhydrite 4802-26 ft, top anhydrite stringer 4310 ft, top red beds 3340 ft, dry in ds test 4835-77 ft, tested 15 thribbles sw in 10 minutes drill stem test 5240-5311 ft, dr 5478 ft lime. Tidewater Oil Co.'s L. Pipes 1, 10-18n-10w, 13-in csg 1250 ft, top Midway 1231 ft, top Calcareous Midway 1308 ft, top Arkadelphia 1471 ft, top Nacatosh 1535 ft, base chalk 2075 ft, top Blosson 2232 ft, dr 2995 ft shale. Standard of Louisiana's Fudicker 1, se nw nw 2-17n-9w, 13-in csg 277 ft, dr 2500 ft.

WINN PARISH—C. W. Cline's Collingsworth Hrs. 1, se se 14-10n-6w, dk.

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MICHIGAN

ARENAC COUNTY—McClanahan Oil Co.'s Mee 1, 11-20n-4e, re-cementing 6-in csg 2460 ft. Central Drilling Co.'s Fisk 1, sec 16-19n-4e, dr 2700 ft. Petroleum Exploration Co.'s State 1, se ne ne, 32-20n-5e, lcn.

BAY COUNTY—Hogan & Wright's Sobuary 1, sec 12-17n-4e, lcn.

CLARE COUNTY—McClanahan Oil Co.'s Robinson 1, sec 31-17n-4w, dr 1700 ft. Witmer Oil Co.'s Musgrove 1, sec 15-24n-1w, dr 1000 ft. Sun Oil Co.'s Campbell 1, sec 12-19n-3w, dr 720 ft.

GLADWIN COUNTY—Muskegon Oil Co.'s Wineman 1, sec 33-18n-1e, sd 3521 ft.

GRATIOT COUNTY — Chas. Anderson's Askergrad 1, sec 9-9n-1w, dr 400 ft. Elba Gas Corp.'s Kisa 1, c se sw, sec 19-9n-1w, lcn. Ithaca Oil Exploration Co.'s Hart 1, sec 10-10n-3w, sd 3046 ft. Cartier Oil Co.'s McConkey 1, sec 23-11n-2w, Dundee 3199 ft, hfw 3260 ft, sd. Gulf Refining Co.'s Moorman 1, nw nw nw, sec 7-11n-2w, rig. Herb Snell's Smead 1, sec 20-11n-4w, sd 3086 ft. Chas. Weller's Bolyard 1, nw nw se sec 27-9n-3w, mim. Sam Siegel, Tr.'s Kerr 1, n½ nw ne, sec 36-10n-1w, lcn.

HILLSDALE COUNTY—Jacob Beck's Fee 1, sec 16-6s-3w, sd 2590 ft. H. H. Heinig's Daley 1, sec 10-7s-4w, rig.

HURON COUNTY—C. W. Teter's Keller 1, sec 27-16n-11e, dr 1800 ft.

ISABELLA COUNTY—Mich. Cities Co.'s Bacome 1, sec 19-13n-4w, sd 1600 ft. Mountain Oil & Gas Co.'s Thompson 1, sec 17-15n-6w, 5-in csg 3599 ft, Dundee 3692 ft, hfw 3702 ft, sd.

MISSAUKEE COUNTY — M. J. Ingold's Donley 1, sec 31-22n-8w, fsg 3060 ft.

MONTCALM COUNTY — L. T. Barber's Rice 1, sec 20-13n-7w, rust 3037 ft. Daily Crude Oil Co.'s Weatherby 1, sec 20-12n-9w, Dundee 3210 ft, Monroe 3311 ft, so&g 3311-15 ft, swab and flowed in three days 68 bbls oil, est 300,000 ft gas, testing.

ROSCOMMON COUNTY—Fletcher & Leyman's Childers 1, sec 15-24n-1w, Dundee 2700 ft, sd 2962 ft. North Michigan Land Oil Co.'s Hartwick 2, sec 31-24n-4w, dr 1300 ft.

SAGINAW COUNTY—Jaenickie Oil Co.'s Moulton 1, sec 31-12n-2e, sd 3234 ft. C. W. Treater's Kilbourne 1, sec 35-12n-1e, sd 3276 ft. Monitor Oil Co.'s Turnwald 1, sec 32-9n-4e, sd 3000 ft.

MISSISSIPPI

BOLIVAR COUNTY—White & Jones' Ballou 1, ne ne 18-24n-7w, arr core 1680 ft.

CLAIBORNE COUNTY — Claiborne O&G Drlg. Co.'s Crawford 1, 6-13n-4e, elev 115 ft, dr 2005 ft. Claiborne County Dev. Co.'s Ruth Hayden 1, 56-11n-2e, lcn.

GRENADA COUNTY—H. T. Salter's Carpenter 1, nw se 5-21n-7e, repr dk.

HINDS COUNTY—Chichester et al's Gerwin 1, sw nw 12-5n-4w, sd 525 ft.

KEMPER COUNTY—R. A. Keaton et al's Buckwalter Lbr. Co. 1, nec 6-10n-14e, dk.

LAMAR COUNTY—Sun's Scanland & Semmes 1, c sw ne 28-4n-15w, elev 317 ft, 9⅝ in csg 1623 ft, cur titles, td 1636 ft.

PERRY COUNTY—Fred E. Courson's Newman Lbr. Co. 2, se sw sw 2-2n-10w, dk and rog.

SIMPSON COUNTY—Goodwill O&G Co.'s Berry 1, 33-2n-4e, dk and rog.

WILKINSON COUNTY—T. S. Stoneman et al's L. T. Ventress 1, ne sw 38-2n-3w, 10¾ in csg 799 ft, dr 4608 ft (Vicksburg).

YALABOUSHA COUNTY—G. M. Langston et al's W. C. Bryant 1, ne sw 21-24n-6e, elev 276 ft, dk and mir.

NEW MEXICO

LEA COUNTY—Argo Royalty Co.'s B. T. Lanehart 1, sw se ne 21-25s-37e, elev 3071 ft, sulphur water in lime 3620-25 ft, dr 3670 ft. Anderson-Pritchard Prod. Corps., C. M. Carlson 2, c sw nw 21-25s-37e, elev 3072 ft, dr 460 ft. Baldridge et al's Blakey 1, c nw ne 5-20s-38e, elev 3586 ft, base salt 2660 ft, rust, td 2815 ft. Brown & Reynolds' Parcell 1, c nw se 8-21s-38e, elev 3573 ft, base salt 2875 ft, anhydrite 3005 ft. Carlock et al (was Talbott & Mullineaux's) Quincy-Ricker 1, c se se 7-16s-36e, elev 3945 ft, top anhydrite 1975 ft, set cas 2010 ft, rust. Amon G. Carter et al's E. M. Elliott 1, c nw nw 22-22s-37e, elev 3374 ft, dr 440 ft; Elliott 2, c ne nw 22-22s-37e, elev 3375 ft, rur. C. & G. Oil So.-The Texas Co.'s Ellen Weir 1, c ne ne 14-20s-37e, elev 3564 ft, td 4074 ft, sdo. J. C. Clower et al's W. H. Turner 1, c se se 29-21s-37e, elev 3469 ft, td 3483 ft, set whipstock to drill by tools. Barney Cockburn & Rowan-Nichols Oil Co.'s H. G. Mattern 1, c sw se 7-22s-37e, elev 3426 ft, td 3789 ft, swabbing through tubing, mostly water. Conoco & The California Co.'s E. M. Elliott 1-A-15, se se se 15-22s-37e, elev 3354 ft, td 3640 ft, used 3000 gals, acid, top pay 3603 ft, complete flowing 25 bbls. 34 gravity oil daily via 9/64-inch choke; Ira C. Forney 1-A-5, c sw se 5-23s-36e, elev 3457 ft, dr salt 2500 ft; Rex Williams 1-A-27, c sw sw 27-23s-35e, elev 3428 ft, dr red beds 1510 ft. Culbertson, Erwin & Stovall's J. R. Stuart-Repollo 2, nw se se 10-25s-37e, elev 3108 ft, killed 2000 lbs. gas pressure, fsh 3277 ft. Devonian Oil Co.'s A. L. Christmas 1, ne ne se 28-22s-37e, elev 3339 ft, dr 1170 ft. Empire O&R Co.'s Sim Dabbs 1, c nw nw 23-25s-37e, elev 3086 ft, flowed 20 bbls 12 hrs at 3179 ft, dd to 3216 ft, tested 37,000,000 ft gas, fsh tubing 3361 ft; R. L. Brunson 1, nw nw se 4-22s-37e, elev 3446 ft, dr 880 ft; Anna Walden 1, c se nw 21-22s-37e, elev 3352 ft, fsh 3350 ft. A. R. Eppenauer et al's F. B. Stuart-Amerada 1, ne nw ne 22-25s-37e, elev 3082 ft, set 15½-in cas 113 ft. J. E. Farrell & Co.'s E. W. Walden-Amerada 1-A, c sw nw 15-22s-37e, sp and sd for elev 3407 ft, dr 270 ft; Walden-Amerada 1-C, c sw sw 15-22s-37e, elev 3385 ft, dr 2760 ft. Geo. F. Getty Oil Co.'s D. C. Hardy 1, c se se 20-21s-37e, elev 3494 ft, cem 5½-in cas, td 3675 ft; Hardy 2, sw se 20-21s-37e, lcn. Harry W. Leonard et al's B. T. Lanehart 3, c ne nw 21-25s-37e, elev 3081 ft, lcn. Magnolia's E. O. Carson 3, c sw sw 28-21s-37e, elev 3467 ft, dr 3215 ft; State 1-G, nw nw ne 24-17s-34e, elev 4019 ft, td 1873 ft, rust. Maljamar O&G Corp.'s Baish 7, c se nw 21-17s-32e, elev 4046 ft, dr 1825 ft. Joe C. Maxwell, R. Crandall & C. H. Osmond's State-Lane 1, c sw nw 32-10s-34e, elev 4205 ft, top anhydrite 2060 ft, dr 2310 ft. Plains Prod. Co. et al's J. A. E. Knight-Humble 2, c nw sw 22-24s-37e, elev 3234 ft, dr 3330 ft; Knight-Humble 3, c se se 21-24s-37e, elev 3218 ft, dr 1880 ft; Knight-Humble 4, c sw sw 22-24s-37e, lcn. Repollo Oil Co.'s O. J. Boyd 2, nw nw nw 23-22s-37e, elev 3338 ft, dr 3342 ft; Robt. Jamison 1, sw se ne 21-24s-37e, elev 3227 ft, flowed 320 bbls oil 12 hrs at 3494 ft, completed flowing 504 bbls 20 hrs; A. M. York 1, se se ne 20-21s-37e, elev 3495 ft, dr 3595 ft. Rushwold Oil Co.-Conoco & California Co.'s E. E. Carter 1, c nw ne 30-20s-39e, elev 3559 ft, top anhydrite 1616 ft, dr 1630 ft. Samedan Oil Corp.'s S. B. Hughes 2, c nw se 4-23s-37e, elev 3318 ft, fsh 1080 ft. Shell Pet. Corp's Black 1, c nw ne 21-24s-37e, elev 3227 ft, dr 3400 ft; State 1-T, c se ne 34-20s-35e, mim. Skelly Oil Co.'s Hugh C. Sims 1-D, c se nw 3-23s-37e, elev 3300 ft dr 3190 ft; J. V. Baker 3, c ne nw 27-22s-37e, mim; R. R. Sims 2, c ne sw 3-23s-37e, elev 3298 ft, dr 1050 ft; R. R. Sims 1-C, c se sw 3-23s-37e, elev 3297 ft, dr 1260 ft; W. P. Sims 1, c ne ne 10-23s-37e, elev 3298 ft, flowed 84 bbls oil 12 hrs after shot at 3585-3653 ft; W. P. Sims 1-B, c nw ne 10-23s-37e, elev 3296 ft, dr 1900 ft; F. S. Stuart 1-A, near c ne nw 15-25s-37e, elev 3105 ft, show o&g 3364-65 ft, dr 3395 with 2500 ft. oih. Stanolind O&G Co.'s P. J. Langley 1, c se nw 15-25s-37e, elev 3109 ft, pb from 3418 ft to 3409 ft, co after shot, flowing 55 bbls oil daily complete. W. H. Street et al's Wood-Humble 1, near c se ne 22-22s-37e, elev 3355 ft, pb fr 1174 ft to 615 ft, re-dr 790 ft. Sun Oil Co.'s I. R. Stuart 2, c sw ne 15-25s-37e, lcn. The Texas Co.'s Jas. F. Black 1, c sw ne 21-24s-37e, elev 3225 ft, dr 2950 ft; V. M. Henderson 1, se se ne 30-21s-37e mim; J. D. Young 1, se se se 5-24s-37e, elev 3277 ft, swab 80 bbls oil 10 hrs, td 3602 ft, shot 80 qts nitro 3547-69 ft, flowed and swabbed 124 bbls. Tide Water Oil Co.'s Coates 1-B, c nw nw 21-25s-37e, elev 3073 ft, testing hole full oil, dr 3010 ft.

OKLAHOMA

ATOKA COUNTY—A. J. Sanders' Redden 3, se sw sw 19-1n-15e, rng 7-in csg.

BECKHAM COUNTY—Mid-American Oil Co.'s Biscoe 1, sw se ne 28-8n-22w, rng csg 1080 ft.

CARTER COUNTY—Head & Straus' Simpson-Fell 1, nw nw se 8-5s-1e, dr 1017 ft.

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CLEVELAND COUNTY — Helmerich & Payne's Glenn 1, cnw ne 6-8n-1w, dr 3568 ft.

COAL COUNTY—Continental's Kirby 1, sw se sw 23-1n-8e, rur; Breedlove 1, nw sw sw 24-1n-8e, dr 4603 ft; King 1, ne sw ne 26-1n-8e, dr 5348 ft; Daniels 1, sw ne sw 27-1n-9e, dr 4592 ft. Carter's Warne 1, ne ne nw 31-2n-9e, cor 5044 ft. Shell's Hill 4-A, cnw 30-3n-10e, dr 5085 ft.

COMANCHE COUNTY—L. D. Wise et al's Cones 1, se se sw 11-1n-10w, sd 2156 ft. Frank Scott's Kuntz 1-A, cse ne se 21-4n-11w, sd 1016 ft. C. V. Morris' Young 1, se ne se 24-3n-10w, lcn.

COTTON COUNTY—Phillips' Warren 1, ne ne se 1-5s-13w, ur 8¼-in csg 2695 ft. Grace-Wood Drlg. Co.'s Wilson 1, csw nw 17-4s-11w, dr 3185 ft.

GARFIELD COUNTY—Ohio's McFarland 1, se se se 25-24n-3w, testing 3459 ft.

GARVIN COUNTY—Ellison & Hammond's Selby 1, cnw nw 24-2n-3w, dr 4470 ft. Pure's Baker 1, se se ne 7-2n-1e, dr 5015 ft. Luttrell et al's Howell 1, nw se nw 34-1n-1e, Hayes Drlg Co. new operator.

GRADY COUNTY—R. E. Johnson et al's Thomas 1, se sw se 18-5n-7w, mir.

GREER COUNTY—Nelf et al's Melton 1, cse nw se 16-3n-22w, to test. Bud Lewis et al's Webster 1, sw ne ne ne 7-7n-24w, dr 645 ft.

HUGHES COUNTY—T. P. McAdams & Barnes' Koch 1, sw ne ne 1-9n-10e, pb 3710 ft. R. K. Ellison's Peters 1, se nw se 8-6n-10e, dr 2942 ft. Mid West Oil Co.'s Turner-Lucas 1, cse nw 13-9n-9e, set 12-in csg 900 ft.

JEFFERSON COUNTY — Mid-Continent's Reid 1, csw nw 32-6s-4w, sd 1800 ft. Massas & Swansberger's Barrett 1, ne se se 14-6s-6w, sd 21 ft.

JOHNSTON COUNTY—Patten et al's McCrummens 1, sw sw ne 16-1s-6e, dr 537 ft.

KAY COUNTY—Max Kelly's Johns 1, nw nw nw 35-27n-4e, dr 2890 ft. G. A. Brown et al's Harris 1-A, sw sw ne 14-25n-1e, cel.

KIOWA COUNTY—Argus Pet. Co.'s Osbourne 1, nw nw ne 9-7n-16w, fsg 1225 ft. Lykins et al's Aetna Life Ins. Co. 1-A, se se se 9-5n-16w, sd 851 ft. Nagel & Adams' Oster 1, sw ne sw 27-7n-17w, dr 636 ft.

LeFLORE COUNTY—McGraw et al's Tidwell 1, cnw se 17-3n-22e, set 10-in csg 2300 ft.

LOGAN COUNTY—Anthony & Marshall's Fruin-Eckman 1, se se sw 4-16n-1e, co 4970 ft. Helmerich & Payne's Hasler 1, nw nw se 14-16n-4w, dr 5500 ft.

LOVE COUNTY—Sinclair Prairie's Stockton 1, se se sw 26-6s-2w, td 6927 ft, prep to swab.

MARSHALL COUNTY—Magnolia's Gardner 1, cne ne nw 34-6s-6e, dr 1455 ft.

McINTOSH COUNTY—Stanolind and Ramsey's Tiger 1, nw nw sw 13-9n-15e, abd 4993 ft.

MURRAY COUNTY—Power Oil Co.'s Lancaster Trust Co. 1, csw ne 10-1s-2e, dr 3020 ft. Russell's Fee 1, se nw se 9-2s-3e, spd.

NOBLE COUNTY—Shell et al's Moelling 1, csw nw 31-21n-2w, dr 5185 ft. Darby et al's Aetna Life Ins. Co. 1, se se nw 1-23n-2w, rig.

OKFUSKEE COUNTY—Harvey Oil Co.'s Stewart 1, ne ne ne 28-10n-9e, sd. Okla. Oil Corp.'s Dawley 1, nw nw se 8-10n-9e, lcn. Champlin Ref. Co.'s Thompson 1-A, sw sw nw 7-13n-8e, abd 4100 ft.

OSAGE COUNTY — Chavalier & Simon's No. 1, se se se 24-23n-9e, sd 2290 ft.

PAWNEE COUNTY—Forest Dev. Co.'s Otter 1, cne nw 15-21n-5e, dr 3185 ft.

PITTSBURG COUNTY — Oklahoma Dist. Co.'s Beeler 1, ne ne sw 7-7n-14e, dr 4084 ft.

SEMINOLE COUNTY — Riverland O&G Co.'s Goebelt 1-A, nw se se 12-6n-6e, td 2903 ft, pb 2408 ft.

STEPHENS COUNTY—Ed Parson's Olson 1, csw sw 21-2n-8w, testing 5745 ft. Coline Oil Co.'s Johnson 1, csw se nw 1-2n-8w, fsg 4786 ft. Edwards' Frederick 1, ne se nw 31-2n-8w, dr 1955 ft. Jack Cohen's Pierce 1, cne nw 24-2s-6w, spd.

TEXAS COUNTY — Allison & Barnhill's Bingley 1, sw sw ne 30-2n-18ecm, sd 2000 ft.

TILLMAN COUNTY — Eugene Skinner's Oliver 1, se se nw 22-1s-15w, fsg 1314 ft. I. T. I. O. Co.'s Drumm 1, csw nw 32-3s-17w, td 3816 ft, woc.

WASHITA COUNTY—McWhirter et al's Fee 1, sw sw sw 34-8n-19w, sd 1562 ft.

SOUTH TEXAS

ATASCOSA COUNTY—Frontier Oil Co.'s Oppenheimer 1, 193.4-ac tr, J. Sharp sur No. 518, 6 mi s Lytle, waiting to sp. Helvetia Oil Co.'s Pratt 2, 176-ac tr, De la Garza sur, Anchorage prospect, ½ mi se Pratt 1, td 3428 ft, top serpentine 3085 ft, soft broken serpentine 3224-66 ft, top Austin chalk 3428 ft, lost dr collar while setting cas, now fsh. L. G. Priest, Tr.'s Sanders 1, 117.61-ac, tr, J. P. Garman sur, No. 1189, sd 1030 ft.

BANDERA COUNTY—A. T. Crane et al's Watson 1, A. C. Curver sur No. 71, 2 mi n Medina City, old well, abnd Nov. 12, 1935, td 2035 ft, black shale, prep to dd.

BASTROP COUNTY—Joe E. Mills' Eskew 1, Samuel Wolfenberger sur 18, Hilbig area, top Austin chalk 2865 ft, sd 2904 ft in chalk. Lee F. Ross et al's Caldwell 1, 1500-ac tr, J. A. Navarro sur, 10 mi w Bastrop, td 2438 ft, 7-in cas at 2424 ft, top Austin chalk 1890 ft, test little black oil from crevice 2435-38 ft, will acidize. Paul C. Teas' Vinklarek 1, 100-ac tr, A. Millet league, 10 mi s Smith Villa, td 7142 ft, top Edwards 7133 ft, slight oil show, set 5-in cas 7142 ft, will perforate and test.

BEE COUNTY—Benson & Jones' Ray 1, 330 ft nl, 360 ft el of center 40-ac tr, Bruk sur, 3 mi e Beeville, old well, td 4500 ft, reinstanted, set whipstock 1190 ft, dr 2000 ft in sdtr hole. Home Oil Co.'s Massey 1, 127.1-ac tr, Pilkington sur, ab 250, 1 mi n Voss field, top Pettus 3980 ft, test sw 3977-87 ft, abnd below 4000 ft. W. C. McBride, Inc.'s Plummer 1, E. J. Chessman sur, sec 33, Plummer sub, td 3042 ft, top Pettus 3031 ft, 7-in cas 3039½ ft, comp 4 bph 26 gravity oil, ¼ and ⅜ in ch, tp 775 lbs, cp 1000 lbs. Miller-Donzis Oil Corp.'s Holzmark 1-B, Foley, 135-ac tr, S. May sur, 1200 ft nw Holzmark 1, Foley area, dst in Pettus 4064-75 ft, show 155 bs, 30 ft oily mud ¼ and ⅜ in chokes, 5 min, set casing, wocs.

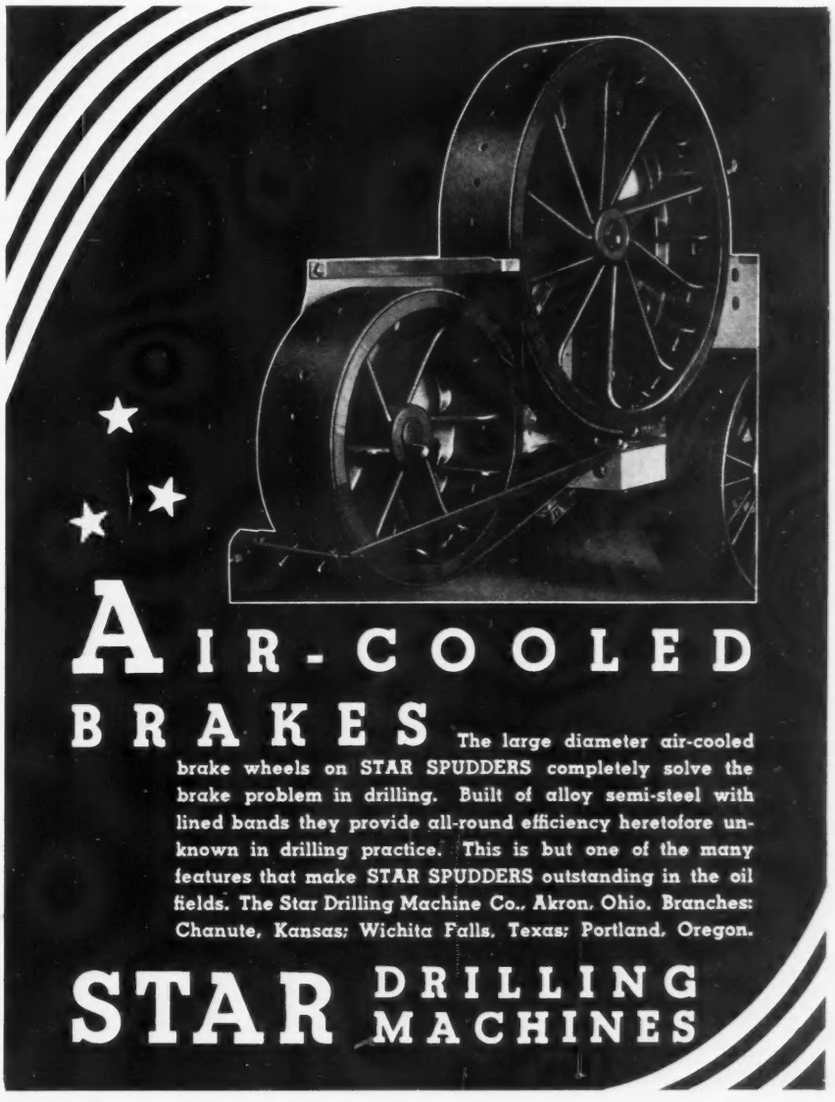
BEXAR COUNTY—Algra Oil Co.'s Peters 1, Botari sur 5, sec 4, 13 mi se San Antonio, sd 670 ft, may abnd. American Gas Co.'s Oliver 5, 400-ac tr, Rodriguez sur, Gas Ridge, dr 3320 ft lime. Albert Chmel's McIntosh 1, 274-ac tr, J. W. Garrity sur No. 19, ¾ mi sw Kirby, dr 325 ft. H. V. Hange and G. E. Donnell Mahula 1, 504-ac tr, Jose Maria Bustillo sur No. 29, 5 mi nw Adkins, dr 50 ft. J. O. Williams' Hoch Est. 1, 157-ac tr, Baerrera sur No. 58, 1¼ mi n Von Ormy pool, dr 240 ft. Woodward, Hardie & Herrold's Herman Sons 1, 2019-ac tr, Pace League sur 37, tr 9, Swearingen, Cassin & Tayloe subd, 28 mi s San Antonio, dr 920 ft sh.

BROOKS COUNTY—The California Co.'s Mestena 1, Alta Mesa area, B. Garcia tr 5, La Mestena de Gonzalina gr, dr 2910 ft; B. Garcia 3-2, Tr. No. 3, Mestena de Gonzalina gr, Alta Mesa area, blew out while coring 2448 ft, running wild. Douglas & Burden, Inc.'s Faller L. C. M. Laughlin sur No. 434, Alta Verde, 1½ mi se prod, dr 900 ft.

BURLESON COUNTY—M. R. Exploration Co., Inc.'s Fountain 3, 936-ac tr, blk A-47, Raleigh sur, 700 ft e No. 2, 12 mi ne Caldwell, skidding on. Red Bank Oil Co.'s Gramm 1, Elisa Santef sur, abt 2500 ft nw of Co.'s Gramm 1, 7 mi w Creisman, 7⅝ in cas 3900 ft, dr lime 6100 ft, top Georgetown 5953 ft.

CALDWELL COUNTY — Brown Drilling Co.'s Pope 2, Salt Flats area, 134-ac tr, John D. Rains sur, 500 ft e Pope 1, lcn; Blackwell 1, 409-ac tr, John Roe sur, 1500 ft w Grayburg's Blackwell 1, 7 mi sw Lockhart, dr 150 ft. J. G. McKenzie's Pierce 1, S. Seal league, s of Luling, Dunlap area, sd 160 ft. R. George Young, Trustee's Schmidt 1, W. C. Williams 1/3 league, 3 mi w Lockhart, lcn.

DUVAL COUNTY—Atlantic Ref. Co.'s J. F. Welder Heirs 1-H, 330 ft nl and wl 131-ac tr, sec 103, Loma Vista area, ru. Mills Bennett's Yates 4, sec 467, 3 mi e Labbe field, dr 3150 ft. Bridwell Oil Co. & Gorman-Yoakam Dr. Co.'s Hoffman 1, 990 ft nwl, 330 ft nel BS&F sur No. 117, ¾ mi e Loma Novia field, sp. N. V. Duncan's 1, GC&SF sur No. 151, nw discovery Charamousca field, dr 1610 ft. Gilcrease Oil Co. and Tom Graham's Escobar 1, blk 4, sec 2, 829.5-ac tr, Juan Jose Manuel de la Garza Falcon gr, Buffalo, Tex., subd, 2 mi sw Premont area, sd 62 ft for rig, corrected depth. Magnolia Petroleum Co.'s Labbe 1, sec 221, 2/3 mi nw Labbe field, ru. Oliver Oil Co.'s Luby 1, s¼ sur 146, lcn. Albert Plummer et al's Danmier 1, sec 58, in Copeta Garden Tracts, addn No. 4, 9 mi s Realitos, dr 3150 ft. The Texas Co.'s Duval County Ranch



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Company 1-C, sur 194, 3½ mi sw Colmena field, set 90 ft 10 in cas, wocs. E. R. Thomas' Parr (was A. Parr et ux) 2, ne/4 sur 2, dr 3150 ft. W. L. Wollet and M. D. Masten's Bishop Duval Land Co. 1, se¼ sec 74, 1¾ mi w Hoffman field, cored out sand 2644 ft, testing.

EDWARDS COUNTY—Plateau O&G Co.'s Hatch 1, J. W. May sur, sec 66, HE&WT RR sur, dr 3440 ft.

FRIO COUNTY—Amerada Pet. Co.'s Halff & Oppenheimer 7, B. J. Gilman sur, Pearsall, dr 5475 ft, chalk, showing oil; Halff & Oppenheimer 8, San Antonio Ditch Company sur No. 1104, Pearsall, dr 3220 ft. Thornton Davis et al's Halff & Oppenheimer 1, John C. Clare sur 336, 1 mi e Pearsall chalk production, td 6518 ft, acidized with 4000 gallons, swabbed 63 bbls oil 15 percent water, in 20 hours, hole swabbed dry, swabbed 10 hours, no show, now sd.

GOLIAD COUNTY—Felmont Corp.'s Hoff 1, 75-ac lease, BS&F sur No. 7, 3000 ft se Maetze field disc well, coring 2950 ft. Sun Oil Co.'s Fromme 1, L. A. Maetze sur, 10 mi n Goliad, coring 5150 ft. R. B. Swiger's Wood 1, blk 23, Swiger sub, Wood Ranch, George Villa sur, 15 mi s Goliad, 2 mi e Kaystone's Woods 1, wor.

GONZALES COUNTY—M. S. Holliday et al's Edwards 1, W. W. Pace 1/3rd league, blk "A," Holliday subd, 3 mi sw of Cheapsides, still sd 933 ft to change drawworks. Reedy & Tull's Bozka 1, B. McClure sur, s of Dilworth, sd 2200 ft. H. H. Weinert, Inc.'s (Marts & Beavans), Martindale 1, J. Robinson sur No. 10, near Ottine, dr 3570 ft, top Austin chalk 3218 ft.

GUADALUPE COUNTY—W. D. Bacon et al's Halm 1, Kent sur, 2 mi s Kingsbury, dr 750 ft. R. S. Byrd et al's Jahns 1, 100-ac tr, Green DeWitt sur, S. Darst Creek, abnd 2478 ft, top Austin chalk 2424 ft. Detroit Texas Dev. Co.'s Carter 1, 300-ac tr, 1 mi sw San Marcos river, 2 mi ne Sullivan, td 2356 ft, set 7-in cas 2065 ft, testing on pump, 1400 ft oil in hole. W. J. Dobbs et al's Jahns 1, 100-ac lse, J. K. Davis sur, ½ mi ne S. Darst Creek prod, abn 2461 ft, top Austin chalk 2361 ft. Long & Ross' Feliz 1, 1½ mi s fr New Berlin, 75-ac tr V. Duran sur, sand 625-26 ft, sandy shale 626 ft to 634 ft, oil show, prep to test. Riddle Oil Co.'s Nolte et al 1, J. Sowell sur, 6 mi e Seguin, sd 1880 ft.

HAYS COUNTY—R. D. Kelly's Donalson et al 1, 105-ac tr, Vermandi gr, 1½ mi ne San Marcos, sd 721 ft, top Edwards 718 ft.

HIDALGO COUNTY—McCollum Exploration Co.'s Engleman Jr. 1-B, lot 8, sec 259, Tex-Mex Ry. sur, La Mestina gr, 1½ mi se Pantana gasser, dr 2050 ft; McDougal 1, lot 223, blk 1, La Blanca tr, 1½ mi s Pantana gasser, dr 3825 ft. H. J. Porter et al's Sweeny Est. 1-A, lot 1, Wayne Wood subd No. 1, 6 mi sw Donna, dr 4975 ft. Dayle L. Smith Oil Co.'s Fairbanks and Young 1, blk 44, porc 46, 4 mi e Samfordyce field, resumed dr 1900 ft. Union Sulphur Co.'s ARGL&L Co. 10, blk 50, tr 2418, N. Capisallo dist, Mercedes area, td 8306 ft, cutting out tubing about 7000 ft.

JIM HOGG COUNTY—T. H. Meek, Jr.'s Martinez Est. 3-A, sec 623, 1320 ft w Colorado field discovery, ru and sd. Pan-Ultimo Oil Co.'s Kohler 1, blk 9, Noriacitas gr, 3 mi nw Hebbronville, dr 3740 ft.

JIM WELLS COUNTY—J. I. Francis & L. A. Simonton's A. Lozano, Jr., 1, lot 111, sec 76, Haldeman sub, Seelingson ranch, 4000 ft sw Graham's Bennett 1, sp. Gist & Graddy's Owens 1, Poitevent sur, 3 mi n Bentonville field, fsh 5308 ft. Tom Graham's Singer 1, lots 71 and 74, sec 76, Haldeman sub, SK&K sur No. 215, western portion Premont area, coring 3200 ft.

KARNES COUNTY—R. L. Barnett's Fee 2, Alex Hunter sur, 4½ mi ne Karnes City, 800 ft se No. 1, sd 2500 ft. De Graffe & Reele's Cochran 1, McConnell League, 5 mi ne Riddleville, dr 200 ft. H. H. Weinert, Inc., Porter 1, Victor Blanco grant, dr 3300 ft.

KERR COUNTY—S. W. Forrester's Bailey 1, A. J. Starky sur No. 408, 3 mi n Ingram, dr 525 ft.

LAVACA COUNTY—Universal & Glaspie's Schubel 2, 100-ac tr, C. Fitzgerald sur, 1100 ft ne No. 1, 2 mi nw Yoakum, ran electrical formation, abnd 2581 ft. Wilshire Union Oil Co.'s Pohl 1, 120-ac tr, Wooten sur, 7 mi nw of Ezzell, sd 1305 ft.

LA SALLE COUNTY—Kennedy & Johnston's Gilmer & Wildenthal 1, 140-ac tr, sur No. 283, Santenis Carrasco sur 28, 8 mi se Cotulla, dk, and sd. W. H. Vernor's M. C. Jeffries 1, sec 726, HE&WT RR sur, 10 mi se Artesia, still sd 850 ft.

LEE COUNTY—Eleoussa Oil Co.'s Sanders 1, 102-ac tr, J. Von Roeder sur, dr 2250 ft. James E. Pederson's Turner 1, D. Hudson sur, 1½ mi se Tangleweed, td 6560 ft, dr 4780 ft in sdtr hole.

LIVE OAK COUNTY — J. H. Durbin's Marbach 4, 429-ac tr, Stephen Hays sur, 2½ mi sw Whitsett, sd 917 ft. Hagan & Stewart's S. A. Joint Stock Land Bank 1, J. Turner sur, 5 mi w and n of Three Rivers, sp and set surface casing. Edwin M. Jones' Ezzell 1, 330 ft nl and el 160-ac tr, sec 3, Ezzell Ranch sub, Thos. Adams sur, 5 mi nw Simmons City, lcn. Loma Oil Co.'s Withers 1, Sparks sur, 3 mi n of Jacob field, dr 425 ft. Ohio Fuel Supply Co.'s Rosebrock 1, Romero sur, ne Oakville field, dr 2250 ft, dst 1918-22 ft, dev 70 lbs. and little oil in 4 min, dst 2138-45 ft, test 15 fourbles salt water, little oil. Sun Oil Co.'s James 1, 1258.3 acre, McGloin sur, ab 28, 1½ mi w Mikeska, coring 2785 ft.

MAVERICK COUNTY—J. W. Boicourt's Edson & Estrada 1, James Eaves sur 68, 12 mi n Eagle Pass, still sd 590 ft.

McMULLEN COUNTY—Humble O&R Co.'s Edrington 1, sec 57, AB&M sur, 6 mi ne Seven Sisters, abnd 3162 ft, top Pettus 3054 ft. L. D. Ormsby's Griffity 10, B. Sparks sur, ab 794, sd 940 ft.

MEDINA COUNTY—Joise Oil Co.'s Medina Irrigation Farms 1, lot 1, blk 32, sec 7, Medina Irrigated Farms sub, 1½ mi e of Devine, dr 240 ft. R. P. Whitfield's Odem 1, Henry Castro sur No. 177, ne of Taylor field, sd 562 ft. C. Whitting et al's Hondo Nat'l Farm Loan 2, sec 214, Geo. Studer sur, ½ mi ne Hondo, 4 mi se Hondo, coring 490 ft. Will Al Wycoff's Bendele 1, 321.5-ac tr, James Barnhart sur 593, ab 1733, 8 mi s D'Hanis, sd below 300 ft.

MILAM COUNTY—J. O. Kilgore's Law et al 1, 606-ac tr, S. Wilhelm sur, 3½ mi w Minerva, lcn. W. R. Ritchey's Chas. McDermott 1, J. R. Cockrill sur, 6 mi e Cameron, still sd 50 ft.

NUECES COUNTY—I. J. Allen and Seaboard Oil Corp.'s Chapman et al 1, sec 80, Laureles Farm tracts, 17 mi sw Corpus Christi, dr 6245 ft. Al Buchanan and Blanco Oil Co.'s Gandy 1, e½ sec 60, George H. Paul sub, e offset Hinds' Sevier 1-A, ru. Camp. Prod. Co.'s Stratton 1, Stratton area, dk, mir. Conroe Dr. Co. & H. M. Reed's Meyers 1, 330 ft nel and sel lot 4, blk F, sec 107, ¼ mi s Driscoll field, lcn. Cosner & Cosner's Stockton 1, ne/4 sec 25, Laureles Farm Tracts, de Ynogosa sur, 12 mi sw Corpus Christi, sd 4948 ft, taken over by Wellington Oil Co. to dd. Lonnie Glasscock's Hunter 2, sec 591, deep test, Saxet field, dr 6110 ft. Hiawatha Oil Co.'s Hutchins-Stillwell 7, lot 34, Sheppard Farm Lots, Saxet deep test, td 5000 ft, rigging up to dd to 6300-foot sand; Griffith 6, Frank sur No. 416, Saxet, ds stuck 6408 ft, cutting out ds 5000 ft. W. L. Hinds' Sevier 1-A, sec 60, Raul subd, Driscoll Ranch, 65 ft se No. 1, 2 mi w Driscoll field, td 6008 ft, perforate casing 5720-25 ft, swabbing. H. S. Moss et al's Coleman 1, of 320-ac tr, sec 206, Bishop sub, Palo Alto gr, s of Agua Dulce field, dr 5375 ft. Steve Paul et al's Smith 1, blk 27, sec 38, Flour Bluff and Encinal Gardens tr, 3½ mi s Flour Bluff field, lcn. Renwar Oil Co.'s Willioughby 1, 860-ac tr, sec 4-G, Garret sub, Petronvilla Singer sur, 5 mi se Driscoll, dr 2700 ft. Republic Natural Gas Co.'s Dunn 15, blk 38, Sheppard Farm lots, deep test, Saxet field, dr 6385 ft. G. M. Richardson et al's Carter 1, nw¼ of sec 8, Laureles Farm tr, 8 mi s Corpus Christi, and 2 mi se London, dr 6185 ft. Stamex Oil & Gas Co. Inc.'s Bird 1, 330 ft sl and wl E. R. Oliver sur No. 162, 3 mi w Baldwin field, lcn. Texon Drilling Co.'s Sevier 2-B, relief well, 880-ac tr, W. W. Chapman lands, Palo Alta Grant, S. Agua Dulce, sp and set 350 ft 16 in cas, now sd. Mable Eliff 1, 3054-ac tr, A. Longria sur, S. Agua Dulce, td 6457 ft, bldg dk to deepen. W. A. R. Oil Co.'s Hutchins 1, sh 2, G. Frank sub, deep test, Saxet, dr 6280 ft. Wellington Oil Co. & Pan-American Production Co.'s Sevier 1-A, Wm. Gamble sur, se of Clara Driscoll field, coring 5590 ft.

REAL COUNTY—Sun Oil Co.'s Dietert & Oppenheimer 1, section 7, GWT&P RR survey, 20 mi nw Leaky, dr 1625 ft.

REFUGIO COUNTY — Josey & Bruton's Lambert 3, blk 50, Swisher sur, 1 mi w Tomoconnor production, cored sand 5541-45 ft, making dst. Paul Meader's Temple Lumber Co. 1, 330 ft sl and wl, sec 1, G. W. Maine sur, ab 218, 2 miles sw Austwell location, contract let, wait on rig. Tidewater Oil Co.'s Landgrof 1, 220-ac tr, J. Collyer sur, n of Hynes Bay, dr 6635 ft. Windsor Oil Co.'s Bissett 1, John Crockett survey, 1 mi nw of Tivoli, lcn.

SAN PATRICIO COUNTY—Atlantic Ref. Co.'s McCampbell Ranch 1-C, 330 ft sel and swl of lot 9, blk 41, McCampbell sub No. 4, McCampbell area, ru. W. B. Craig's Nelson 1, 471 ft nel, 466 ft sel of s¼ sec 7, first addn Taft Farm lands, 2 mi sw Taft field, moving in. Eleanor Oil Co.'s Kline 1, lot 5, blk "C", Coleman-Fulton Pasture Co. subd, 2½ mi se Gregory, sd 6851 ft; Toland 1, 8000 ft n Kline 1, lot 15, blk A, Coleman-Fulton Pasture subd, 2½ mi e Gregory, dk and sd. Hooper & Rutherford, Inc.'s Willis 1, Gregory area. T. T. Williamson sur, e offset to Eleanor's Kline 1, dr 6760 ft. Texon Royalty Co.'s Harvey 1, 330 ft nl and wl blk 13, Rincon sub, Geo. Sargent sur, ab 231, 4 mi n Gregory, 1850 ft.

STARR COUNTY—Howard Bass' Hayden

et al 1, s/2 blk 4, sur 7, porc 80, 5½ mi ne Rio Grande City, sd 1336 ft. F. Davenport & Slick Urschel's Slick Est. 1, sec 485, 20 mi ne Rio Grande City, dr 4890 ft. Moss and Heard's Ricaby 1, 218 ft el of w½ por 83 and 15,000 ft n State Highway 4, ru. South Coast Oil Corp.'s Lopez 1, lot 11, sh 29-B, porc 80, 10 mi n Rio Grande City, dr 3450 ft. Sun Oil Co.'s Orr 1, por 103, Juris of Mier, M. Gonzales sur, 4½ mi s Cuevitas field, dr 850 ft.

VICTORIA COUNTY—Magnolia Pet. Co.'s Beck 1, 132.8-ac tr, T.N.O. sur 1, 4½ mi nw Telferner, dr 4020 ft. Plymouth Oil Co.'s Welder 1, 6371.9-ac tr, Belding sur, ab 141, 7 mi e Nursery, ds stuck 6648 ft, pb and sdtr 4378 ft, now dr 4840 ft.

WEBB COUNTY — American Texas Oil Co.'s McKendrick 1, 1700-ac tr, por 46, 6 mi fr Rio Grande, ru. French Oil Corp.'s Garcia 1, sur 1121, 3 mi ne Oilton, dr 1246 ft. Frank J. Gravis' Yeager-Strohman 12, sh 5, Las Animas gr, Albercas area, sp. Ivan Howard et al's Frost Nat'l Bank 3, sur 475, 5 mi w Mirando City, lcn; Frost Nat'l Bank 1 (4), in sec 770, dr 1550 ft. LuTex Oil Co.'s Lone Star Construction Co. 1-A, blk 25, SS&B sub, por 12, 13, 14, sp. Mid-Continent Pet. Corp. & Oklahoma Co. of Texas Inc.'s Laubscher 1, sec 1394, 7 mi nw Webb, abnd 3509 ft. Hope's Bruni 1, blk 2, sec 857, 5 mi se Mirando City, dk. Superior Oil Co.'s Masterson 1, 330 ft sl and wl sec 35, ru. Wilcox O&G Corp.'s Puig Bros. 1, sec 9, Loma Blanco Pasture of Joaquin Galan Gr, sur 2183, dr 650 ft.

WILLIAMSON COUNTY — H. F. Toff's Kunze 1, 75-ac tr, J. J. Liendo sur, still sd 1330 ft. L. D. House et al's Stewart 1, 151-ac tr, M. De la Villa sur, 11 mi e Bartlett, ru and sd. C. R. Richardson's Zeischang 1, 200 ft e line, 300 ft n line, 100 ac tr, Hamilton & White sur, lcn.

ZAPATA COUNTY—B. M. Alexander, Jr.'s Fee 1, 250-ac lse, 5 mi n Lopeno, lcn, dropped until work begins. W. C. Bob's Martinez 1, blk 22, W. R. Buke subd, Randado gr, 1 mi w Charco Rendondo field, abnd 365 ft. Gilcrease Oil Co.'s Trevino 1, blk 3, sec 3, Bode sub, por 2 and 3, 7 mi se San Ygnacio, dr 3090 ft. The Texas Co.'s Whitehead 94, Cerrito Blanco gr, deep test, Escobas field, coring 2356 ft.

ZAVALLA COUNTY—H. F. Wilcox's Gillam 1, sw¼ sec 11, blk A-2, GWT&T Ry. sur, 6 mi ne Batesville, ru, prep to sp.

EAST TEXAS

BOWIE COUNTY—Ferguson & Hill's A. Y. Breckenridge 1 (412-ac), Nancy Dycas sur, 4 mi w Texarkana, sd 1005 ft. Woodley & Bentley's J. D. Lumpkin 1 (245-ac), John McDermott sur, 1¼ mi sw Dalby Springs, elev 290 ft, Annona chalk 1665-2090 ft, coring shale 4385 ft.

CHEROKEE COUNTY—General Crude Oil Co.'s Mrs. S. L. Stockton 1 (103-ac), S. Jarboe sur, 3 mi ne Mount Selman, elev 475 ft, Pecan chalk 3330-3695 ft, top Austin chalk 4160 ft, dr 4310 ft. Dr. H. Hancock et al's Mrs. B. Pryor-Shell 1 (53-ac), J. T. Jones sur, Rusk area, elev 460 ft, rur. A. F. Richardson et al's F. P. O'Brien 1 (167-ac), G. S. Clapp sur, 3 mi n by w of Rusk, lcn.

COLLIN COUNTY—E. A. Parkford et al (was California Consolidatel Oil Co.'s) Mrs. W. L. Fagg 1 (38-ac), Jas. Rutherford sur No. 4, mi ne Blue Ridge, elev 626 ft, top Georgetown lime 1980-2651 ft, tested fresh water in Paluxy series at 2771 ft, more water at 2776 ft, sdo. Port Bolivar Co.'s O. C. Durning-Clarkston 1-A (140-ac), Wm. Creager sur, Pat. No. 1193, 2½ mi ne Anna, elev 722 ft, td 4098 ft, tested trace oil and salt water sdo; A. Shirley 1 (50-ac), Gwynn Morrison sur, 1 mi e Anna, dk.

DELTA COUNTY—W. S. McGee et al's Mrs. P. W. Miller 1 (52-ac), E. Spencer sur, 1 mi sw Cooper, elev 465 ft, top Woodbine Red Beds 2650 ft, top Georgetown lime 3040 ft, sd in shale 4221 ft.

FALLS COUNTY—J. Edward Mills et al's Sam Grucholski 1 (40-ac), Dennis Hérold League, 5 mi sw Kosse, elev 521 ft, top Edwards lime 3867 ft, top upper Glen Rose 4074 ft, sd 4114 ft.

FREESTONE COUNTY—Roger Steward & Velvet Oil Co.'s E. H. Beauchamp 1 (100-ac), E. Greene sur, 4 mi nw Fairfield, elev 374 ft, Pecan chalk 2430-2586 ft, top Austin chalk 3362 ft, top Woodbine Red Beds 4210-18 ft, dry and abd 4403 ft. Fred R. Lovering et al's E. Bonner-Scott 1 (23-ac), H. Awalt sur, 7 mi n Fairfield, Pecan chalk 2175-2286 ft, top Austin chalk 3117 ft, fsh 3860 ft. C. A. Everts et al's O. W. Killam 1, John Robbins sur, Red Lake area, rur. R. L. Wheelock, J. L. Collins et al's W. R. (Bill) Boyd, Jr. 1 (410½-ac), F. P. Cabler sur, 3½ mi sw Fairfield, lcn.

GRAYSON COUNTY—Olson Drl. Co.-Jas. H. Gardner & Broswood Oil Co.'s D. R. Utiger 1 (160-ac), P. P. Cady sur, 5 mi nw Denison, elev 722 ft, show o&g in Trinity 860-890 ft, base Trinity series 930 ft, top chert 950 ft, dr 1650 ft.

HENDERSON COUNTY—Cosden Oil Corp.'s Mrs. E. P. Miller 1 (1550-ac), Thomas Chaffin usr, elev 451½ ft, Pecan chalk 3232-3474 ft, Austin chalk 4440-4655 ft, top Woodbine series 4898 ft, tested salt water 5136-55 ft, dr 5200 ft. S. Sparks, Keeley et al's Theo. H. Berry 1, Aaron York sur No. 847, 5 mi s Brownsboro, lcn abd. Wm. McDougal, Tr. et al's Elvira Price 1 (216-ac), M. Matthews sur, 3½ mi s Trinidad, elev 294 ft, Pecan chalk 2100-2390 ft, Austin chalk 3050-3484 ft, top Woodbine sand 3832 ft, dry and abd 4124 ft.

HOPKINS COUNTY—Empire O&R Co.'s J. E. Worsham 1 (149.36-ac), Alex O. Wetmore sur, Sulphur Bluff area, Pecan chalk 1, 1511-1610 ft, dr 1650 ft. Walter L. Goldston & Frankel Bros.' H. J. Smith 3 (450-ac), Jas. A. Craft sur, lcn. D. S. Hager and W. P. Luse's J. G. Reynolds 1 (200-ac), A. O. Wetmore sur, elev 420 ft, dr 3150 ft. D. S. Hager, W. P. Luse & Russ Pet. Co.'s J. E. Worsham 5 (192.26-ac), A. O. Wetmore sur, elev 437 ft, Pecan chalk 1515-1527 ft, top Georgetown lime 3615 ft, top Paluxy series 4432 ft, Paluxy pay section 4456-4521 ft, flowing 100 bbls oil per hr; J. E. Worsham 6, mim; J. E. Worsham 7, elev 427 ft, Pecan chalk 1500-1614 ft, top Paluxy pay 4479-4517 ft, testing; Jeff M. Worsham 1 (39.82-ac), A. O. Wetmore sur, mim. F. D. Jones Drilling Co. et al's Mrs. J. K. Pierce-Gulf 1 (225-ac), Jas. A. Craft sur, mim.

HOUSTON COUNTY—E. R. Mount, Branch et al's Dr. P. S. Griffith 1 (136-ac), Frank Johnson sur, 3 mi sw Crockett, sp and sd.

HUNT COUNTY—Penn Oil Corp.-Elmer S. and Fox Wood's A. B. Manning 1 (57½-ac), Sally Owens sur, 5 mi ne Lone Oak, elev 599 ft, dk. Superior Oil Co. (Cal.), Moncrief & Showers, Inc. & W. L. Pickens' P. B. Paul 1 (183-ac), Mary Latham sur, 5 mi ne Quinlan, lcn for 6500-ft test.

LAMAR COUNTY—Jas. A. Forrester et al's J. S. Woodward 1 (18¾-ac), J. W. Woodward sur, 1½ mi e by s of Minter, elev 402 ft, top Georgetown lime 2256 ft, Paluxy sand 3060-3144 ft, top anhydrite 3735 ft, base hard anhydrite 4075 ft, broken to 4105 ft, dry and abd in hard lime, possibly sub-Trinity, td 5203 ft. H. Salmon, Lowery & Cutler's E. C. Porter 1 (30-ac), Thos. King sur, 3 mi ne of Chicota, lcn.

LEON COUNTY—H. M. Ogg et al's O. Wiley 1, E. Devinney sur, 1 mi w Buffalo, dk. Roth & Faurot O&G Co.'s J. L. Sham 1 (254-ac), O. R. Reams sur, 5 mi n Centerville, top broken Pecan chalk 4065 ft, base chalk 4290 ft, top Gober chalk 4860 ft, dr 5100 ft.

LIMESTONE COUNTY—A. H. Grider et al's W. B. Kendrick-Pure 1 (10-ac), Pedro Varella sur, Mexia field, 6100-ft Trinity test, lcn. A. W. Phillips et al's E. M. Speight 1 (136½-ac), M. Herrin and Pedro Varella sur, 4 mi ne Groesbeck, rig.

RAINS COUNTY—Humble O&R Co.'s O. L. J. Easter 1 (39¾-ac), R. Hotchkiss sur, 4½ mi e of Emory, 7600-ft Trinity test, elev 438 ft, Pecan chalk 2177-2862 ft, Austin chalk 3260-

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3739 ft, top Woodbine 4257 ft, top Washita 4970 ft, top Georgetown lime 5003 ft, dr lime 5650 ft.

RED RIVER COUNTY—J. S. Abercrombie Co.-Harrison Oil Co.'s Southern Pine Lumber Co. 3 (392.37-ac), D. D. Bruton sur, 11 mi ne Clarksville, elev 403 ft, dr shale 1950 ft. Carpenter Oil Corp.'s R. E. Anderson 1 (100-ac), S. W. Sims sur, 3 mi n Clarksville, elev 459 ft, top Red Beds 1250 ft, dr 1590 ft. Roy I Carter Drilling Co. et al's J. A. Tutt 1 (40-ac), Dennis Harty sur, 2 mi s Avery, sp and sd. M. Petroff et al's R. C. Morris 1 (176-ac), Joseph Guest sur, 2 mi w Detroit, sp and sd. Dale Sneed, R. H. Manning & Texfornia Co.'s Hooker-Hughes 1 (80-ac), MEP&P Ry. sur, No. 642, 6 mi sw Lydia, elev 307 ft, Pecan chalk 995-1302 ft, top Austin chalk 2018 ft, sd 2720 ft.

ROBERTSON COUNTY—J. Edward Mills et al's Tony Congelosi 1 (75-ac), Geo. A. Nixon sur, 3 mi sw Hearne, dr by junk, td 2250 ft.

RUSK COUNTY—Ben E. Lamb et al's Haywood Leath 1 (185-ac), L. J. Dooley sur, 2½ mi e of Pirtle, elev 370 ft, Pecan chalk 2468-2793 ft, Austin chalk 3352-3512 ft, td 4725 ft, cleaning out. J. W. Shipman et al's Citizens Nat'l Bank (L. T. Burton) 1 (125-ac), J. J. Y'Barbo sur, 4 mi ne Henderson, elev 432 ft, dr 3610 ft.

SMITH COUNTY—W. L. Cloud et al's Dora Kendall 1-A, John Williams sur, 1¼ mi se Jamestown, sd 2794 ft.

TITUS COUNTY—J. V. McMahon, McIntyre et al's John B. Stevens 1 (777½-ac), J. Meechen sur, 8 mi sw Mount Pleasant, cem surface cas.

UPSHUR COUNTY—Bell Oils, Inc.-Bennett Pet. Corp. & B. L. Watson's W. O. Irvin 1 (249-ac), D. R. Cannon sur, 4 mi ne Coffeeville, elev 241 ft, Pecan chalk 2345-3100 ft, Austin chalk 3371-3419 ft, dr 3760 ft.

WOOD COUNTY—G. W. Nix et al's Mrs. E. A. Russell 1, John Delap sur, 4 mi w of Golden, sd 600 ft.

EAST TEXAS BORDER COUNTIES

HARRISON COUNTY—H. R. Roberts et al's Zion Douglas 1, L. S. Field sur, coring 890 ft. Weiss et al's W. L. Rudd 1, Wm. Steele sur, lcn.

MARION COUNTY—Tom Bell's Carrie Moseley 1, David Lane sur, 12½-in csg, 72 ft sd 500 ft. Holcomb, Thomasson et al's (formerly M. H. Overlee's et al) Lizzie Henderson 1, R. Bennington sur, dr 3795 ft.

PANOLA COUNTY—Glassell & Glassell's Frost Lbr. Co. 1, Mary S. Potts sur, elev 216 ft, using gas to drill nearby wells, td 6002 ft. Williamson 1, H. Coleman sur, massive anhydrite 46-35-4860 ft, dr 4900 ft lime. Lawler Pet. Co.'s C. T. Becknell 1, Bailey Anderson sur, dr 5275 ft. White Goodwin Synd.'s Hill 1, Winny Mann sur, rur. Logansport P.L. Co.'s Rushing 1, Mannan Smith sur, 7-in csg 2477 ft acidized, td 2734 ft. Magnolia Pet. Co.'s E. A. Hull 1, Thos. Applewhite sur, elev 232 ft, top Georgetown 2395 ft, top massive anhydrite 4659 ft, dr 5830 ft lime. Motex Oil Co.'s J. M. Furrh 1, Thos. M. Alstone sur, top chalk 1575 ft, 9⅝-in csg 2460 ft, coring 4998 ft lime sg. Yandell Rogers' Cameron Lbr. Co. 1, Wm. A. Lagrone sur, lcn.

SHELBY COUNTY—Rubeling & Potter's O. H. Polley 1, Wm. Whisner sur, arr deepen td 4200 ft. Red Wing Oil Co.'s C. H. Herton 1, J. Dowlin sur, fsg 1888 ft. Mulroy & Curtin's C. Hayden 1, D. F. T. Yordt sur, co to deepen td 2907 ft. H. A. Stebbinger's Pickering Lbr. Co. 1, C. E. Henry sur, si, td 5029 ft. Pure Oil Co.'s J. L. Smitherman 1, S. O. Pennington sur, mim. Wm. Redditt's Pickering Lbr. Co. 1, Stephen English sur, ready to spud.

TEXAS GULF COAST

AUSTIN COUNTY—R. L. Hopkins & J. T. McGregor et al's Reineche 1, se of Bellville, J. Stephenson sur, ru.

BRAZORIA COUNTY—Beaty, Bowles & Borsodie's Truska 1, Algoa prospect, H&TB sur No. 6, dr shale 6558 ft.

CHAMBERS COUNTY — Salt Dome Oil Corp.'s Lawrence 1-A, Cotton Lake area, S. Barrow sur, dr shale 3308 ft. Sun's Acom 1, Seabreeze area, T&NO sur, sec 128, comp 50 bbls distillate daily from 8190 ft; same operator's White Estate 2, same area, same survey, making a squeeze job 8715 ft.

GALVESTON COUNTY — Shell's Maco Stewart 1, Hitchcock prospect, J. Spillman sur, making drill stem test, 6500 ft.

COLORADO COUNTY — Sterling's South 1, Garwood area, I&GN sur, sec 41, swabbed dry 6034 ft.

FT. BEND COUNTY—Sloan & Zook's J. A. Brown 1, Pilant Lake prospect, Barrett & Harris, sur, abn 6510 ft.

HARDIN COUNTY—Republic's Brooks 2, Silsbee area, J. W. Brooks sur, sdtr 5700 ft; same operator's Brooks 3, Silsbee area, J. W. Brooks sur, to set csg 6979 ft.

HARRIS COUNTY—B. A. Farrell & J. B. Cox et al's Bender Estate 1, w of Humble field, M. W. Travis sur, ru. Geo. Lawrence et al's Zapp 1, Bammel prospect, J. Farwell sur, dr shale 4105 ft.

JEFFERSON COUNTY — David B. MacDaniel et al's J. N. Gilbert 1, Gilbert Ranch area, J. Ricord sur, ru. Sun's Broussard 2, Labelle area, W. B. Burton sur, reaming to set casing 8217 ft.

LIBERTY COUNTY—J. G. Mayo et al's Dunnam 1, Rumayor prospect, J. Cherry sur, dr shale 3235 ft.

MATAGORDA COUNTY — Continental's Robbins 1, Citrus Grove area, C. Franz sur, ru; same operator's Hawkins 1, Sheppards Mott prospect, D. McCarthy sur, ru. Hammond Exploration Co.'s Croker 1, South Bay City area, E. Hall sur, dr shale 8435 ft. Strake's Sargent 1, Poole Ranch area, Mrs. L. E. Parker sur, fsh 6880 ft. Sun's Craig 2, Hawkinsville, J. Williams sur, dr salt 1785 ft. Tettes & Harris's Pierce Estate 1, Blessing prospect, J. W. E. Wallace sur, sd 7723 ft.

MONTGOMERY COUNTY—W. W. Chapman's Thomas Foster Lumber Co. 1, Willis area, D. Pevehouse sur, dr shale 1303 ft.

POLK COUNTY—J. K. Dorrance's Wings 1, nw part of county, I&GN sur, dr shale and lime 4855 ft. Peyton Brothers' Kirby & West B-1 Ace area, J. S. Thomas sur, spudded.

TYLER COUNTY—Republic's Hurd Fee 1, se of Spurger field, Norman Hurd sur, dr shale 6308 ft.

WASHINGTON COUNTY — Stapper Pet. Corp.'s Hoxie 1, S. Sample sur, coring 1786 ft. Sun's Lauter 1, Clay Creek area, N. Clay sur, dr shale 7478 ft.

WHARTON COUNTY — P. B. Watson's Sweet 1, Magnet area, J. Smith & McKenzie sur, sd 5492 ft. Felmont's General Mitchell 1, Spanish Camp prospect, D. Wade sur, fsh 8075 ft. Shell's Seydler 1, Southwest Wharton prospect, F. Biggam sur, abn 5715 ft.

INDIAN LEASE SALE

Muskogee.—A total of 12,325.43 acres of restricted allotted Indian lands from 23 counties in Oklahoma will be offered for sale at public auction in the office of the superintendent of the Five Civilized Tribes at Muskogee, December 10, 1936. The sale, originally scheduled for October 29, was postponed to the above date, and will be held under the regulations prescribed by the secretary of the interior. It will begin at 10:00 o'clock in the morning of December 10 according to an announcement by A. M. Landman, superintendent at the agency.

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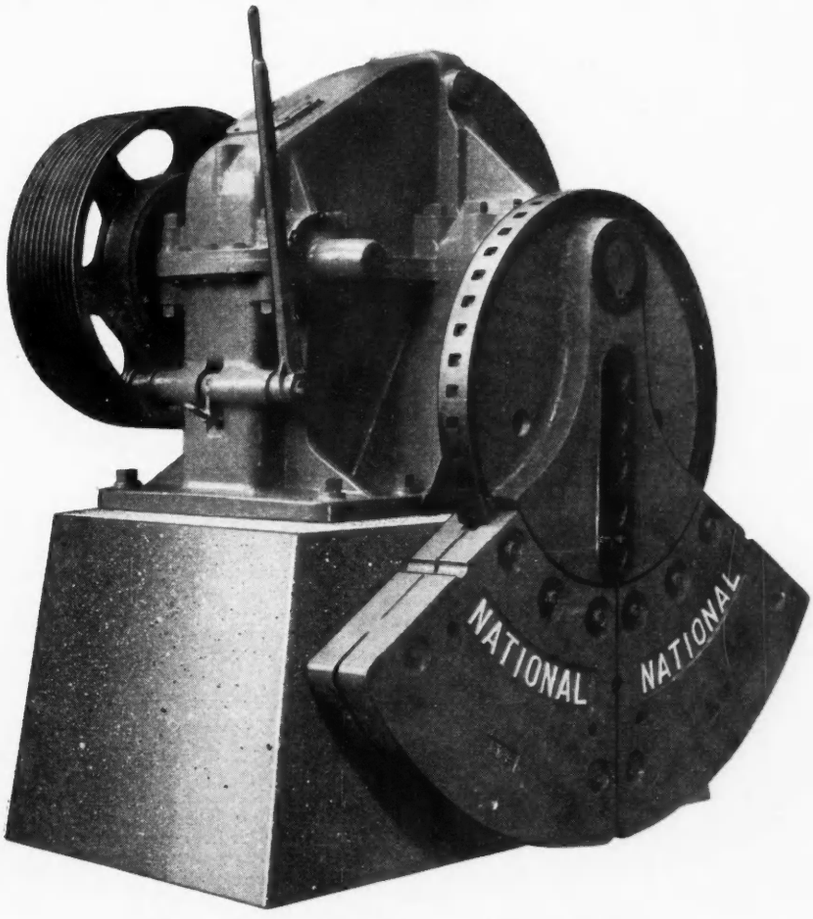
REDUCTION GEAR
The National Supply Company

The National Supply Company, Toledo, Ohio, has announced the manufacture of National Type "H" Reduction Gears, in seven sizes to cover the complete requirements of oil well pumping. Both single and double reduction types are available in the capacities where both slow and high speed prime movers are commonly used. A.P.I. tentative horsepower ratings range from 10 to 70 at 20 strokes per minute. A feature of these gears is their all around utility. They can be used as a central power, or to pump a single well with additional wells, if desired, through back crank arrangements. Hoist drive sprockets can be provided, if required.

These gears are completely symmetrical in design and arrangement. Bearings, gears and shafts are alike on each side of the case. Heat treated shafts of generous size are mounted in heavy ribbed housings. Crank shaft bearings are of the renewable split bronze pattern with thrust flanges to prevent wear on gear housings. They are made in two perfect bearing halves without gap at the split and are bored after assembly in case to insure alignment. Special attention has been given to back crank loads by providing an unusually wide main bearing split vertically in direction with the load. The pinion and intermediate shafts are equipped with oversize, self-aligning roller bearings which permit the gears to float in perfect adjustment with the slow speed gear.

Sykes herringbone gears are used on all sizes. On double reduction gears, the high speed gears and pinions are of the spaced herringbone type. In this design, the two halves are cut in pairs as if they were one continuous herringbone gear. Bearing loads are equalized by dividing the high speed train, thus adding greatly to the life and continued efficiency of the entire unit. All gears are generated on Farrel generators and are lapped and run in under load at the factory. The oiling system is simple and automatic in operation.

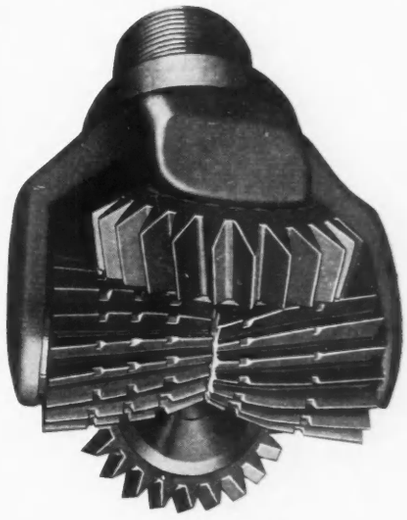
Counterweighting is made very effective by National disc cranks and adjustable counterweights. The weights are made in two halves securely clamped over the rim of the cranks. To change position, the bolts are loosened, allowing the weights to slide freely on the rims. This makes it possible to turn the cranks to the desired position for reclamping the weights. The powerful and sensitive service brake is used to hold the cranks in position while the bolts are being tightened. Adjusting counterweights by power is an exclusive feature.



The National Supply Company Reduction Gear

ROCK BIT
H. C. Smith

H. C. Smith, Los Nietos, California, has announced a rock bit that incorporates many new features in rock bit construction, the manufacturer claims. The two gauge cutters have conventional roller bearings plus two thrust ball bearings eliminating possibility of any play in the cutters. This play in the cutters would result in the formation forcing the cutters inward causing a loss of gauge in hole.



Smith Rock Bit

A deep and proper shaped tooth insures a maximum amount of diamond substitute metal plus the ultimate in the hardness of the metal itself. The cross roller assembly is made of a special alloy steel, pin heat treated and greatly increased in size over conventional cross pin, eliminating any danger of breakage.

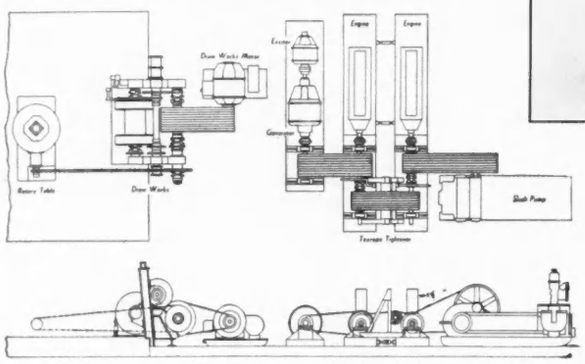
A full line of rock bits is carried for soft, medium and hard formations. The different formations encountered in the various fields tend to decrease the efficiency of any one type of cutter tooth. With this in mind the engineers have evolved several types of cutter tooth edges, designed particularly to allow easy penetration and fast cutting by the bit. Inherent characteristics of this bit are its smoothness in operation and ability to dig straight holes. This company has completed the installation of new and heavy duty oil tool equipment to facilitate the production of their new rock bits.

DRILLING RIG
Allis-Chalmers Manufacturing Company

Allis-Chalmers Manufacturing Company, Milwaukee, Wisconsin, manufacturer of electrical and transmission machinery for drilling rigs used in the oil fields, has announced a new combination mechanical-electrical drilling rig, known as the "EM" rig. Although all of its drill-

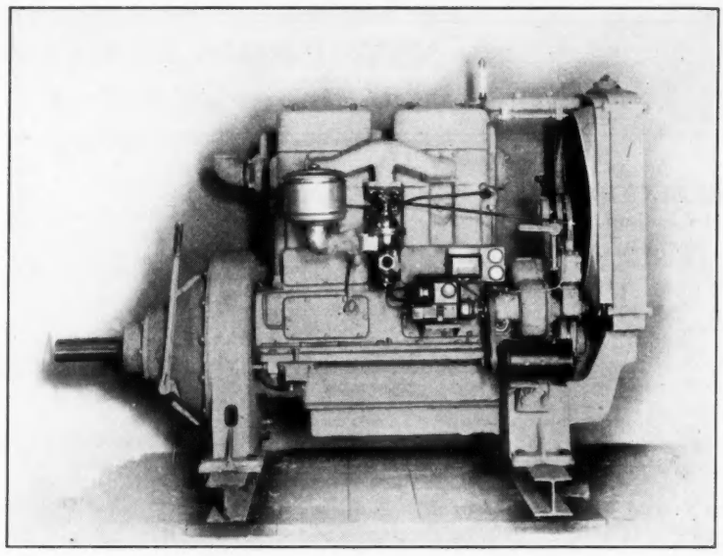
ing rigs utilize various makes of Diesel engines, the methods differ. In the all-mechanical driven rig both the draw works and the slush pumps are driven directly from Diesel engines through texrope, V-belt drives. In the all-electric rig the two or more Diesel engines are connected through texrope drives to generators which furnish direct current to a draw works motor and to slush pump motors.

In the newly offered combination "EM" oil well drilling rig the draw works motor is again driven by power produced by a Diesel engine, texrope driven generator, but the slush pumps are mechanically driven directly by the same Diesel engines through texrope drives. This method, with the pumps mechanically driven, eliminates the need for a pump motor as well as one of the two generators usually employed in the all-electric type of rig. Much interest is being shown in the new mechanical-electrical type of rig, a number of which are now in successful operation.



Left—

Allis Chalmers Drilling Rig



Buffalo Engine

WELDING MACHINE
Harnischfeger Corporation

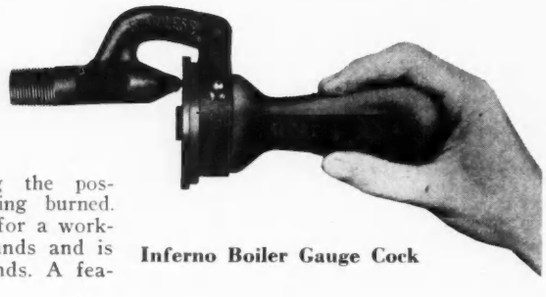
Harnischfeger Corporation, Milwaukee, is offering a new line of "Smootharc Welders," for a broad field of arc welding. The manufacturer claims the new welder will deliver steady and uniform current for unvarying welding heat, deep penetration and uniform metal deposit. A single automatic current control is provided and all controls are centrally grouped.

BOILER GAUGE COCK
The Inferno Company

The Inferno Company of Shreveport, Louisiana, is offering a new boiler gauge cock to the oil industry. This new "Inferno Cock" has an 18-8 stainless forged steel body and nozzle that is entirely non-corrosive.

A weighted handle presses a lead disc against the aperture in the stainless steel nozzle. This disc is reversible so as to afford an unlimited number of seating points on either side. By merely lifting the handle and turning slightly to right or left a new seat is found at any time desired.

The handle is suspended on a bracket so that when lifted the steam is deflected downward, avoiding the possibility of the operator being burned. The device is recommended for a working pressure up to 800 pounds and is factory tested to 1000 pounds. A feature, in addition to interchangeable parts, is a stainless hydraulic grease fitting placed in the side of the bracket so that the mechanism can be greased without disassembling. The new gauge cock is especially recommended for its safety features.



Inferno Boiler Gauge Cock

ENGINE
Buffalo Gasoline Motor Company

Buffalo Gasoline Motor Company, Buffalo, New York, has introduced an engine for operation on gasoline or natural gas. This particular engine is new in this particular field of endeavor but is not new in other service. The engine was brought out in 1930 and has been developed in service since that time. It is particularly suited as a pumping engine with a normal operating speed of 500 to 600 revolutions per minute but capable of running at 1200 revolutions per minute for taking potential pumping capacities.

The engine has four cylinders, 5⅞-inch bore, 7-inch stroke, developing a maximum of 50 horsepower at 600 revolutions per minute and 120 horsepower at 1200 revolutions per minute, and having its maximum torque at about 1000 revolutions per minute. Valve-in-head construction includes renewable seats of high heat and corrosive resisting alloy. Crankshaft is 3¾-inch in diameter, has five bearings and a total crankshaft main bearing area of 213 square inches. Crankshaft bearings are located in the lower base and are accessible for adjustment and replacement through large hand hole panels in the upper crankcase.

Cylinders are cast in pairs and separate from crankcase. Exhaust manifold is water jacketed providing a cool operating unit at all times. Oil filter and oil cooler are standard equipment and the engine is supplied with or without radiator, as desired. It is so arranged that a radiator and fan can be mounted on a standard engine at a later date if required.

WELDED BOILER
Farrar & Trefts, Inc.

Farrar & Trefts, Buffalo, New York, recently completed what is thought to be the first high-pressure boiler ever made with welded barrel and dome, under U-68 (Class I) rules of the A.S.M.E. code for fusion welded vessels. The new boiler is of locomotive type and is for use in oil fields. The barrel is 16½ feet long, 62½ inches outside diameter, and made of steel plate 1.15 inches thick, electrically welded by the shielded arc process with equipment supplied by The Lincoln Electric Company, Cleveland, Ohio.

Welded construction of the barrel eliminated a large amount of caulking of seams which was necessary with the former method of construction employing riveting. The manufacturer reports that the seams remain permanently tight in the field thus assuring freedom from maintenance. The two longitudinal welds of the barrel were hammer tested at 575 pounds and leak tested at 700 pounds hydrostatic pressure, revealing leak-proof seams.

ANTI-FREEZE SYSTEM
Sullivan Machinery Company

Sullivan Machinery Company, Michigan City, Indiana, has announced the Tanner tank air line anti-freeze system which eliminates air line and air tool freezing. This system is harmless, odorless and non-explosive, the manufacturer claims. It will not injure metal, hose or lubrication. The tanks are built to A.S.M.E. specifications of welded construction for 200 pounds working pressure and are easily installed.

This Week with the Industry's EQUIPMENT SUPPLIERS

Shafer Bearing Moves Headquarters

Shafer Bearing Corporation, manufacturers of roller bearings, has moved its general offices to 35 East Wacker Drive, occupying parts of the 27th and 28th floors in the tower of The Pure Oil Building.

The company is also establishing a Chicago district sales office at 545 West Washington Boulevard, with a display of the Shafer radial-thrust roller bearings and mounted bearing units for industrial power transmission and other applications.

Wagner Sales & Service New California Organization

A recent new comer to California concerns acting as sales representatives for large eastern manufacturers making equipment for the oil industry is Wagner Sales & Service, Inc., which has opened a warehouse at 2371 East 51st Street, Los Angeles. Sales are being handled in California for Gardner-Denver Company and Portable Rig Company. Other equipment of well-known makes are to be added from time to time. The new company will feature heavy oil field equipment.

The company was started by Chas. D. Wagner, and later joined by Harry C. Morehouse and Howard Elliott. It is planned to change the name to Wagner-Morehouse, Inc. A stock of Gardner-Denver equipment is already in the warehouse, and by December 10, it is expected that a line of Portable Rig Company equipment will be assembled.

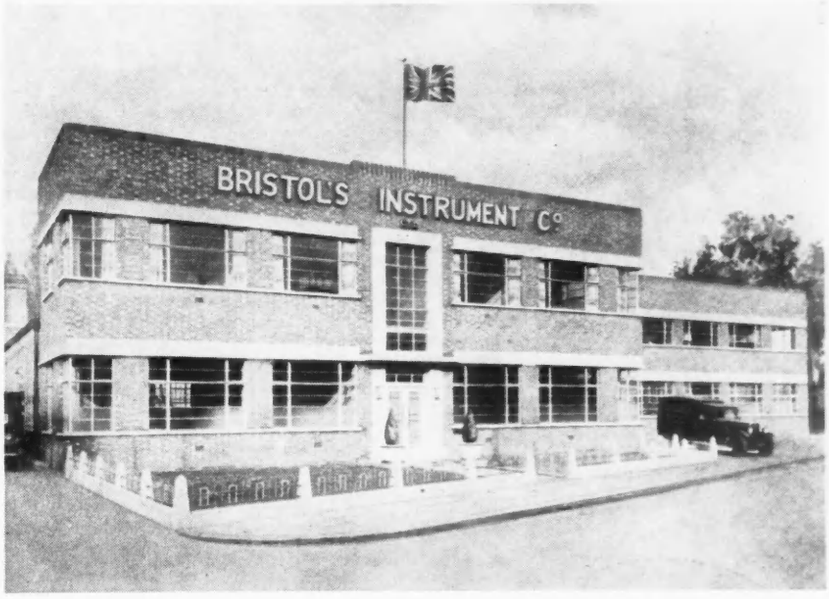
Wagner has had a long and varied experience in the oil field equipment business in California as well as in the Mid-Continent. He was with the Axelson Machine Company for five years as general sales manager and later became associated with E. M. Smith, Edwin W. Goeser, W. A. Trout and J. S. A. Smith as the originating vice president and manager of sales of Emsco Derrick & Equipment Company, in that capacity for 11 years, until July 1, this year.

Morehouse has had experience in California oil tool trade, and is also well known in other oil areas of the United States. He was with Union Tool Company for five years, and 10 years ago joined the Emsco organization. He became vice president and manager of sales of the machinery division for Emsco two years ago, when Wagner took active control of the D & B Pump division of the Emsco organization. He joined Wagner in the new company on October 15.

Elliott was connected with the Emsco organization for two years before becoming associated with Gardner-Denver Company in California, and two years ago went with the D & B Pump division of Emsco.

Bristol Enlarges London Plant

Bristol's Instrument Company, Ltd., London, England, celebrated its fourth year of manufacturing Bristol instruments in England by moving into a new home located at Brent Crescent, North Circular Road, West Twyford. This was purchased recently to allow for an expansion program. The new building is of modern construction and will facilitate the manufacture of instruments.



Bristol's Instrument Company's new plant in London, England

The move to larger quarters was carried out under the direction of G. H. Gaites, managing director. A staff of qualified sales and service engineers under his direction is maintained to provide specialized engineering and advisory service to users of instruments in England.

The move to larger quarters is a part of a program of expansion being followed by Bristol associated companies, The Bristol Company of Canada, Ltd., Toronto, Ont., and The Bristol Company, Waterbury, Connecticut, U. S. A.

CHAS. D. WAGNER

HOWARD ELLIOTT

HARRY C. MOOREHOUSE

Buy these
Original Composition Valve Cups on the Basis of . . . .

DARCOVA
(Orange Label) the standard for more than thirty years under severe service at all depths.

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(Blue Label) for service in wells to approximately 2,000 feet in depth.

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(Green Label) the popular favorite for wells to 800 feet in depth.

We take **pride** in a record of over 30 years in giving the oil trade absolutely dependable valve cups. We **know** it is a record you can **profit** by!

Manufactured Only by

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WILLIAMSPORT, PA.

Men in the Industry's News

[*Continued from page 17*]

RICHARD C. KERR, petroleum engineer of Los Angeles, and other members of the crew of Iniskin Drilling Company, reported as lost in Alaska last week, have been located and all are safe. The plane in which they were traveling was forced down near an Idaho Inlet in Gull Cove, 50 miles from Hoonah. A native runner brought word of the landing and stated the pilot would resume flight as soon as weather permitted. Other members of the crew were: Dr. J. E. Slate, company physician; Martin Skauge and Jack Allen, drillers. Iniskin Drilling Company holds 60,000 acres of land on the mainland side of Cook's Inlet, where a well is being drilled. Kerr was doing special work for the company.

O. D. WILLIAMS, formerly tool pusher for Helmerich & Payne, Inc., has been general superintendent of the company's operations in the Mid-Continent. He has moved to the company's headquarters in Tulsa.

CLIFF SAVAGE, assistant chief scout for Carter Oil Company, Tulsa, has returned from a trip to California.

ALEX W. McCOY, geologist of Ponca City, will speak Wednesday, December 9, at the first public meeting of the 1936-37 season of the Tulsa chapter of the American Petroleum Institute. His subject will be "The Next Five Years in Oil." The A. P. I. is the open forum of the oil industry, and everyone from book-keepers to executives are urged to make a special effort to attend the meetings, this one being of special interest to members of the petroleum industry.

DR. JACQUE MORRELL, associate director of research of Universal Products Company in Chicago, was named the outstanding inventor in the oil industry at the centennial celebration of the American Patent System, held in Washington, November 23.

GUY E. (Squire) GREEN, for three years a member of the geological department of Wellington Oil Company and Santa Clara Oil Company in San Antonio, has been elected to the board of directors of that concern and will be actively in charge of a portion of the company's business as vice president. He was with Vacuum Oil Company in West Texas and at a later date in the geological department of Kirby Petroleum Corporation in East Texas. Green played an important part in the discovery of several of the larger fields of the South Texas territory.

PAUL WEAVER of the geological staff of Gulf Oil Corporation, Houston, addressed the Shreveport Geological Society December 4 on the subject "Heaving Shale Encountered in Drilling on Salt Domes on the Gulf Coast." The society on December 11 will hear Dr. Richard J. Russell of Louisiana State University, Baton Rouge, on "Some Notes on the Geo-Synclinal Theory."

D. HAROLD BYRD, of Dallas, has been reelected president of the Independent Petroleum Association of Texas. The election took place at a meeting held in Austin last week. Byrd was president last year and prior to that time the post had been held by Major J. R. Porten. C. E. Cole, of Laredo, was elected vice president of the association. Bailey W. Hardy was reelected vice president, a post which he had held since the organization began.

STUART MOSSON, geological department of Magnolia Petroleum Company, has been made San Antonio District geologist for that concern. Mossom was assistant geologist for the State of Florida from 1924 to 1927. He was in the geological department of Ohio Oil Company in East Texas until 1930, at which time he came to San Antonio to become geologist for Lion Oil Refining Company. He shortly afterwards resigned to become a consulting geologist. In 1934 he accepted a position in the geological department of Magnolia Petroleum Company in San Antonio.

FRANK R. HARRISON, for 14 years connected with Mexican Gulf Oil Company at Tampico, Mexico, in the executive and accounting departments, has been transferred to the executive department of Gulf Oil Corporation at Houston.

CLAREL B. MAPES, secretary of the Mid-Continent Oil & Gas Association, was the principal speaker at a meeting of the Oklahoma chapter of National Oil Scouts Association held in Oklahoma City on December 2.

C. I. McGLOTHLIN, geologist for the M. C. Lucky interests with headquarters at Port Arthur, Texas, spent a portion of his vacation the past week visiting his father at Fort Worth.

H. R. CARPENTER, sales manager for Jarecki Manufacturing Company, Bartlesville, Oklahoma, has returned to his duties after a period of illness.

J. E. BURDEN, of the firm Sheldon & Burden, drilling contractors, at Tampico, Mexico, has returned to his headquarters after a trip to Houston.

M. M. KORNFELD was the speaker at the weekly meeting of the Houston Geological Society December 3, discussing microscopic methods in localized subsurface geology.

CHARLES B. CARPENTER, petroleum engineer for the United States Bureau of Mines, was elected president of the Dallas Petroleum Geologists, a Dallas organization largely made up of members of the American Association of Petroleum Geologists. Dilworth S. Hager, geologist and producer, and R. A. Stehr, geologist for Seaboard Oil Corporation, were chosen vice president and secretary-treasurer, respectively.

Squeaks from the Bull Wheel

Memories

Papa: "I think I'll go downstairs and send Nancy's young man home."

Mama: "Now, Elmer, remember the way we used to court."

Pappa: "I hadn't thought of that. I know damned well I'd better go down and send him home."

A Bust

In the course of the trial the judge turned to the negro woman on the stand and asked: "How old are you?"

"I'se 73, jedge."

"Are you sure?"

"Yaas, suh."

"Mandy, you don't look 73."

"I'se sure, jedge."

After a few moments the trial was interrupted by Mandy. "Jedge, suh, I was wrong when I said my age was 73; that's my bust measure."

Reputation

You pay a small deposit, then you make no more payments for six months.

Who told you about us?

Didn't Mean It

Temperance Speaker — My friends, when I see a young man coming out of a taproom, I want to say to him, "Young friend, you are going the wrong way. Turn back."

Testimonial

A woman recently acknowledged the payment of a life insurance policy in this manner:

"On July 1 my husband took out a policy with your company. In less than three weeks he was killed in an automobile wreck. I think insurance is a good investment."

Biblical

Two clergymen, one highly educated and the other quite the opposite, were discussing the value of education.

"I suppose," said the latter, "that you have gone through college."

"Yes, I have," modestly replied the minister.

"Well," declared he of little education, "I am thankful that the Lord opened my mouth without an education."

"Yes," courteously asserted the other. "A similar thing, we are told, happened in Balaam's time."

Over the River

A clergyman named Jordan had a son at college. The son was about to take his final examination and naturally the father asked the boy to let him know as soon as possible how he got on.

One day the father received a telegram which read: "Hymn 254, verse five, last two lines."

Looking up the reference in the hymn book he read: "Sorrow vanquish'd, labor ended, Jordan passed."

Tightening

"So you have formed an anti-tipping society?"

"Right—we are resolved to give no quarter."

Money Sings

"I can't think why they make so much fuss about Miss Smith's voice. Miss Jones has a much richer one."

"Yes, but Miss Smith has a much richer father."

Ambitious

"You have turned very industrious lately, Tim," said one Tipperary man to another, in New York.

"That I have," replied the other. "I was up before the court last weeek for batthering Cassidy, and the judge told me if I came back on the same charge he would fine me $10."

"Did he?" said the first speaker. "And ye're working hard so as to keep your hands off Cassidy?"

"Don't believe it," said the industrious Irishman. "I'm working hard to save up the $10!"

In Doubt

He was just off on a business trip around the world and she was seeing him off.

Just before the boat left the dock she clung to him and implored:

"My dearest, will you be true to me when you are far away? Promise that you will write to me from every place you visit."

As he kissed her he asked suspiciously:

"Is it love that prompts you to say this or are you merely collecting foreign stamps?"

A Spelling Bee

First I got tonsilitis, followed with appendicitis and pneumonia. After that I got erysipelas with hemocromatosis. Following that I got poliomyelittis and finally ended with neuritis. Then they gave me hypodermics and inoculations.

No, sir, I thought I would never pull through that spelling test!

"We Have With Us—"

Toasts were in order. The toastmaster arose to introduce a prominent elderly speaker, and said:

"Gentlemen, you have just been giving your attention to a turkey stuffed with sage. Now you will give your attention to a sage stuffed with turkey."

Fast Starter!

The installment man's here.

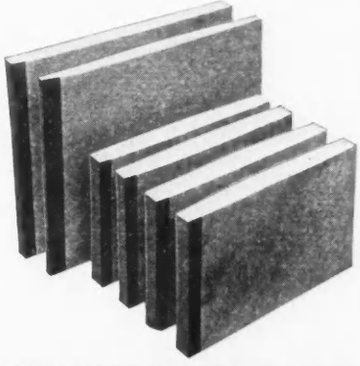
I'll be there in a minute. Tell him to have a chair.

I did, but he said he'd start with the radio and the piano.

Density!

Political speaker: "I'm pleased to see such a dense crowd here tonight."

Voice from the rear: "Don't be too much pleased. We're not all dense."



Oil Company OFFICE and FIELD FORMS

available at mass production prices

Form No.	Kind of Form
100	DAILY DRILLING REPORT—1 Tour (In duplicate—100 sets to the book)
101	DAILY TIME RECORD (In duplicate—100 sets to the book)
102	DAILY GAUGE REPORT (In duplicate—100 sets to the book)
103	WELL LOG AND RELATED DATA (8½x11, Printed both sides—100 to book)
104	PIPE TALLY SHEET (In duplicate—100 sets to the book)
105	MATERIAL TRANSFER RECORD (In duplicate—100 sets to the book)
106	DAILY DRILLING REPORT—3 Tours (In duplicate—100 sets to the book)
107	OIL, GAS & MINERAL LEASE (Producers 88-Rev.—100 to a book)
108	SEMI-MONTHLY TIME RECORD (Pocket size—50 forms to book)
109	MONTHLY WELL PRODUCTION AND ALLOWABLE REPORT (25 sheets to the pad)

These forms are printed on 16-lb. bond paper They are substantially bound. Duplicates are printed on colored bond and perforated. Pencil carbon included with each book.

After carefully reviewing the forms of a number of oil companies, The Gulf Publishing Company has made up nine standard forms listed above and has produced these in such quantities as to enable oil companies to secure them at substantial savings.

Forms will be shipped prepaid at prices shown. Samples will be sent upon request.

Large volume of sales enables us to offer these forms at reduced prices as follows:

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5 to 9 books (all of one form or assorted)—— .85 per book
10 or more books (all of one form or assorted)—— .70 per book

GULF PUBLISHING COMPANY, 3301 Buffalo Drive, Houston, Texas

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International Derrick & Equipment Co.	—
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The Layne & Bowler Co.	—
A. Leschen & Sons Rope Co.	—
M. J. Lewis Oil Well Service	—
The Lincoln Electric Co.	—
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Lone Star Cement Corp.	25
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Merchants Photo Service	—
Merco Nordstrom Valve Co.	—
Miller Sand Pump Co.	—
Mission Manufacturing Co.	—
Lee C. Moore & Co.	First Cover
Muskogee Iron Works	—
N	
National Bank of Tulsa	—
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Naylor Pipe Co.	—
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Norvell-Wilder Supply Co.	—
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Pittsburgh Steel Co.	—
Portable Rig Co.	—
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Trimont Manufacturing Co.	—
Trinity Portland Cement Co.	—
Tulsa Chamber of Commerce	—
Twin Disc Clutch Co.	—
Twin-Seat Valve Co.	Third Cover
U	
Union Carbide & Carbon Corp.	—
Union Wire Rope Co.	—
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WKM Co.	Third Cover
Worthington Pump & Machinery Corp.	—
Y	
Yale & Towne Manufacturing Co.	—
Youngstown Sheet & Tube Co.	39

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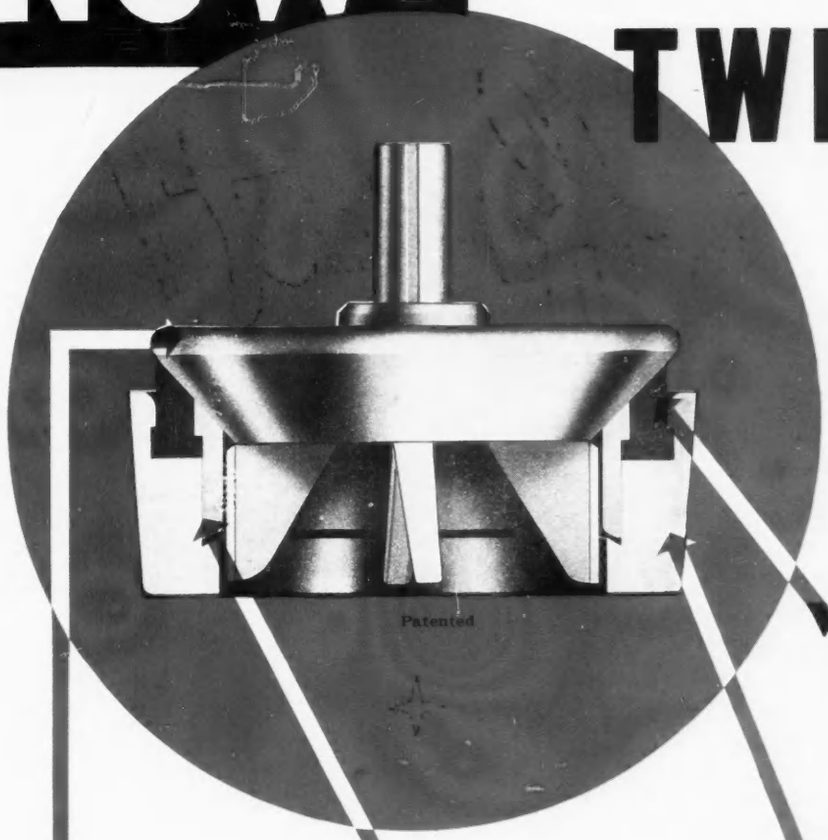

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They call it revolutionary . . . this **TWIN-SEAT VALVE**, which is today affording protection to slush pumps never before possible; which is saving the user around 28% replacement costs when insert seats are worn; which is turning a lot of the customary valve pounding into smooth valve operation; and which is doing such an all-round bang-up performance job that numerous major and independent operators and drilling contractors are standardizing on it.

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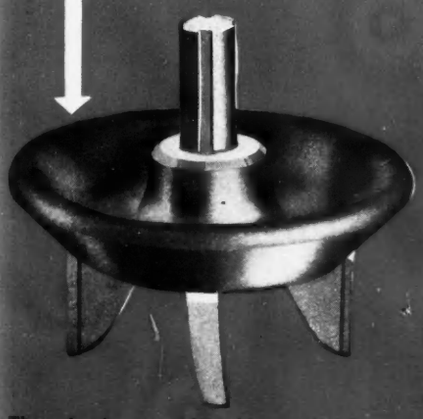
The rubber insert seat acts as a seal and shock-absorber for the replaceable steel insert seat.



The valve is a one-piece drop-forging from a high grade carbon steel, and is heat-treated.

The steel insert seat is drop-forged from a high grade nickel steel, and is heat-treated.

The bronze valve seat body, acid-resisting and non-corrosive, receives very little wear because it is merely the container for the rubber and metal insert seats.

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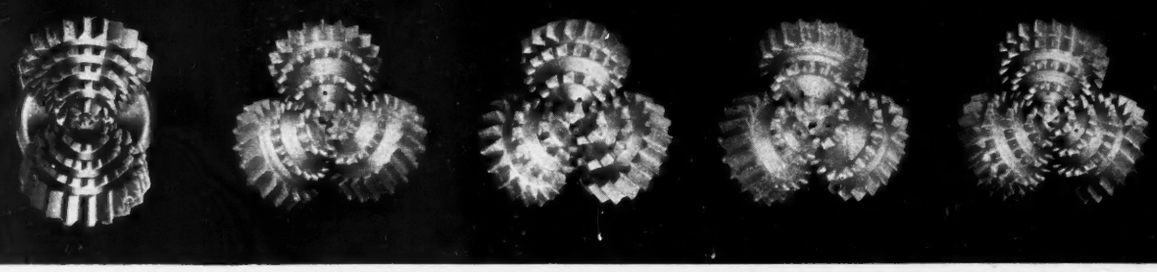
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